

**Exploring the relationship between
course pedagogy and learning in workplaces:**

**The Case of the National Diploma in
Environmental Education Training and Development Practice**

by

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ABSTRACT

This case study research provides insights on course pedagogy in the National Diploma in Environmental Education Training and Development Practice as registered with the South African Qualifications Authority. The study draws its findings from interviews, observations, and document analysis of course materials and workshop processes.

The two case studies of employees working in a municipal and a provincial context in South Africa provide rich insights into workplace practices and its implications for pedagogical approaches in work-integrated courses. The role of scaffolding, reflexivity and situated learning in creating learning experiences that learners have a reason to value emerge as significant approaches to be considered in pedagogy for work-integrated courses.

Critical open-ended questions supported by course material design, dialogue, participation in co-operative learning situation underpinned by reading and the use of case studies and real situated experiences emerge as important pedagogical approaches enabling scaffolding and reflexivity to support a “critical mode of being”. The significant role of pedagogical approaches in maintaining relevance to workplace practices are seen as important in developing capabilities of participants to value what they do on courses. Linked to the insights gained from this study three important recommendations are made. The first recommendation suggests that a pedagogical approach, which involves learner-practitioners and workplace representatives in the curriculum design, would help to maintain relevance of the assignments to the workplace. The second recommendation suggests creative and innovative pedagogical approaches to capture workplace practices in real authentic and meaningful situations for assessment. The third recommendation suggests that pedagogies used in workplace courses need to consider social-ecological sustainability competencies that transgress job tasks across occupations which foster appreciation and imagination of new possibilities in the work learner-practitioners engage in.

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ACRONYMS

ANC	African National Congress
CHE	Council for Higher Education
DACE	Department of Agriculture, Conservation and Environment
DARD	Department of Agriculture and Rural Development
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DEC	Delta Environmental Centre
DoE	Department of Education
DoL	Department of Labour
EETDP	Environmental Education Training and Development Practice
ELP	Environmental Learning Programme
ESSP	Environmental Sector Skills Plan
ETDP-SETA	Education, Training and Development Practices Sector Education Training Authority
KPA	Key Performance Area
LTSMs	Learning and Teaching Support Materials
MM	Metropolitan Municipality
NDEETDP	National Diploma in EETDP
NQF	National Qualifications Framework
NSD	National Skills Development
NSDS	National Skills Development Strategy
OFO	Organising Framework for Occupations
POE	Portfolio of Evidence
QCTO	Quality Council for Trade and Occupations
RPL	Recognition of Prior Learning
SAIVECT	South African Institute for Vocational Education Community Training
SAQA	South African Qualifications Authority
SGB	Standards Generating Body
SOER	State of Environment Report
TVET	Technical and Vocational Education and Training
UNEP	United Nations Environment Programme
WESSA	Wildlife and Environment Society of South Africa
ZPD	Zone of Proximal Development

CHAPTER 1: INTRODUCTION

1.1 Introduction

This case study explores the pedagogies used in environmental education work-integrated courses and how they support workplace learning in provincial and local government settings. In this chapter, I introduce the context of the study; describe the organisation in which I am employed as an environmental education facilitator; discuss the broader context of the study and give an overview of the research sites. The latter part of the chapter introduces the research question, outlines the key concepts explored in the study and provides a brief overview of the structure of the chapters that follow.

1.2 Context of the Study

1.2.1 My Role as an Environmental Education Facilitator

I work as an environmental education facilitator at Delta Environmental Centre (DEC) in Johannesburg, South Africa. Through innovative education and training programmes, Delta Environmental Centre, a non-governmental organisation, aims to enable people to improve their environment by promoting the management and sustainable use of all resources. I currently manage the National Diploma in Environmental Education Training and Development Practice (EETDP) qualification offered by DEC. The National Diploma in EETDP is a Level Five qualification located within the National Qualifications Framework (NQF) as gazetted in 1995 and registered with South African Qualifications Authority (SAQA) through the Education, Training and Development Practices Sector Education Training Authority (ETDP-SETA).

The National Diploma in EETDP course offered through DEC was a pilot study comprising learner-practitioners from a Provincial Department of Agriculture and Rural Development, staff working at a Zoo and a Metropolitan Municipality. The course that forms the focus of this study, started in January 2009 and ended in January 2011, was offered through a part-time model of nine contact sessions of five days each, with workplace assignments in between. Participants attended tutorials to support them with the assignments and the compilation of a Portfolio of Evidence (POE).

The course curriculum was designed to support work-integrated learning and therefore had a strong emphasis on professional practice. Through my involvement with this course, I have developed an interest in how the curriculum processes (especially course pedagogies) support students in transferring learning from the course into their environmental education practices at work. Equally,

I am interested in how learner-practitioners' professional experiences and workplace dynamics can feed back into the course and influence the curriculum. In this research project, I focus specifically on course pedagogy with the aim of understanding better how course pedagogy interfaces with professional practices and contexts so as to inform future EETDP curriculum development.

1.2.2. The NQF and the EETDP Qualification

The National Qualifications Framework (NQF) in South Africa guides all formal education and training. It sets out the parameters, principles and theoretical underpinning of the qualification system. The NQF emerged through the South African Qualifications Authority Act of 1995 (Isaacs, 2003). The objectives of the NQF are to have one national framework for learning achievements; facilitate access to, and mobility and progression within education, training and career paths; enhance the quality of education and training; and create opportunities for employment through redressing past discrimination (Republic of South Africa, 2008).

The South African Qualifications Authority (SAQA), which emerged through the SAQA Act of 1995, mandated SAQA to be responsible for the development and implementation of the NQF. Twenty-five Sector Education and Training Authorities (SETAs) were established to implement and co-ordinate the occupationally directed stream of qualifications for workplace learning. The Standards Generating Bodies (SGBs) developed the qualifications through the SETAs; thereafter each qualification was registered with SAQA against the NQF.

A National Standards Generating Body (SGB 05) for Environmental Education was established and held its first consultative meeting on the 18 February 2002. At this meeting, the SGB proposed the following structure for qualifications in environmental education, indicated in Table 1.1.

Table 1.1: Environmental Education Qualifications on the NQF in 2002

NQF level	Type of Qualification
Level 8	Generic M.Ed. (modelled on the M.Ed. for educators in schooling)
Level 7	Unit Standards for use in the Honours qualification
Level 6	Advanced Certificate in Environmental Education, Training and Development Practices (120 credits)
	360 Credit Degree in Environmental Education, Training and Development Practices
Level 5	National Diploma in Environmental Education, Training and Development Practices (240 credits)
	National Certificate in Environmental Education, Training and Development Practices (120 credits)
Level 4	National Certificate in Environmental Education, Training and Development Practices (120 credits = Further Education and Training Certificate)

Table 1.1 indicates the location of the National Diploma in EETDP in relation to other environmental education qualifications and highlights the possible pathways of learning for a person completing the National Diploma in EETDP at the time of its development. Subsequently, the NQF was reviewed and the SAQA Act 58 of 1995 was replaced by the NQF Act 67 of 2008. The NQF levels changed from 8 levels to 10 levels (NQF Act, 2008). This has had implications for all qualifications including the National Diploma in EETDP, the curriculum of which will need to be redesigned, hence this research. The National Diploma in EETDP will remain relevant until 2016 and learner-practitioners will have time until 2019 to complete their courses. The insights gained from this research are therefore relevant because they will inform how environmental courses can be taught in an occupational context, as these are revised in the future.

The Department of Environmental Affairs and Tourism (DEAT) supported the development of accredited Environmental Education Training and Development Practice courses, in partnership with key stakeholders in the environmental sector. In 2004, WWF-South Africa and DEAT funded a needs analysis to inform the development of the National Certificate: EETDP (level 5) (Wigley & Olvitt, 2005). The report surveyed local and provincial government, the agricultural, nature conservation, business and industry sectors and revealed the need for qualified EETDP practitioners to address the environmental knowledge and skills gaps within and across these sectors. The analysis projected that the EETDP qualification could be used to train extension officers, community workers in community-based organisations, non-governmental organisations, staff in government organisations working in the field of environmental awareness and unemployed community members engaged informally in the agricultural sector (Wigley & Olvitt, 2005).

The Wildlife and Environment Society of South Africa (WESSA) registered the Level 5 National Certificate in Environmental Education, Training and Development Practices (120 credits) as a Learnership and Delta Environmental Centre registered the National Diploma in Environmental Education, Training and Development Practice (240 credits). Together, the National Certificate and the National Diploma in EETDP provide learners with access to a learning pathway in environmental education and training, as was recommended in the needs analysis document (Wigley & Olvitt, 2005).

Further to this, research on the Environmental Sector Skills Plan (ESSP), conducted by the Department of Environmental Affairs (South Africa. DEA, 2009), identified environmental education as a critical skill in the country and indicated a need for EETDP qualifications that bring together aspects of theory and practice.

1.2.3. Structure of the National Diploma in EETDP

The National Diploma in EETDP as registered through the Education, Training and Development Practice Sector Education and Training Authority (ETDP-SETA) with SAQA consists of Critical Cross Field outcomes and also of Unit Standards categorised as Fundamental (40 credits), Core (175 credits) and Electives (25 credits). (Refer to **Appendix 1** for a summary of the qualification). Critical Cross Field outcomes are: “those generic outcomes that are useful for, and result from, all teaching and learning” (Isaacs, 2000). Unit Standards as defined by SAQA (Act No. 58 of 1995) are:

...registered statements of desired education and training outcomes and their associated assessment criteria describing the quality of the expected performance together with administrative and other information specified in the NSB regulations.

The purpose of the Unit Standard is to provide guidance to:

- o assessors, with regard to the evidence that must be gathered during assessment;
- o learners (the learning outcomes that must be achieved);
- o designers and /or providers of learning materials about the learning materials or learning experiences that are to be prepared to assist learners to reach competence. (Isaacs, 2000)

The Critical Cross field outcomes and the Unit Standards with their associated specific outcomes and assessment criteria are key design features of the qualification. To achieve the qualification, learner-practitioners must show competence against all the relevant Unit Standards and Critical Cross-Field outcomes that make up the qualification.

The National Diploma in EETDP qualification specifies Exit Level Outcomes and Essential Embedded Knowledge. Exit Level Outcomes refer to an “outcome that defines the level of performance according to which a candidate completing the qualification is assessed” (NQF Act 67 of 2008). Essential Embedded Knowledge refers to the broad area of content to be taught: “It is the knowledge a learner needs to show competence in the Unit Standard. It is the broad area of knowledge the learner will gain during the course of a learning programme” (Coetzee, Botha, Kiley & Truman 2007, p. 26).

Education and training providers offering this qualification, such as Delta Environmental Centre, draw on the features of the specified Unit Standards to design the course curriculum and make pedagogical decisions around the content, methods and assessment processes to be followed in their particular context.

1.2.4. The National Diploma in EETDP at the Delta Environmental Centre (DEC)

The National Diploma in EETDP, as offered through DEC, has emerged from experiences within the field of environmental education since the centre's establishment in 1970. Through the search for greater depth and quality in the professional development programmes offered at DEC, the methodologies have moved over the years from information transfer and raising awareness to a stronger focus on active learning and the development of action competence. Parallel to this, the content of the professional development programmes has shifted from a conservation focus to looking at specific aspects of socio-ecological sustainability.

Through practically engaging in professional development programmes with teachers and environmental practitioners (e.g. municipal staff), DEC staff identified the need to formalise the training in alignment with current educational systems and structures (Ramsarup & Misser, 2007). As environmental education and training career paths opened up in post-apartheid South Africa, both learner-practitioners¹ and educators noted a clear need for recognition in terms of accreditation and certification of courses they were attending or offering.

In 2004, Delta Environmental Centre started to explore options around accreditation and re-strategising their professional development work with teachers. In 2005, the Environmental Learning Forum was established through DEA, WWF and WESSA². The needs analysis conducted by Wigley and Olvitt (2005) was made available and DEC participated in Environmental Learning Forum meetings. DEC also consulted various stakeholders and consultants for advice on the qualification that they should offer. It was finally decided in 2006 that DEC would offer the National Diploma in EETDP (Level 5), to provide a learning pathway for the students who would complete the National Certificate in EETDP at this level. During the course of 2006, course materials were written and applications made to the ETDP-SETA for programme approval. DEC received its accreditation to offer the qualification in October 2007 (Delta Environmental Centre, 2007).

Four DEC staff members were originally involved in the conceptualisation and preparation of materials and the facilitation of the programme. I have been closely involved with the National Diploma in EETDP since the initial discussions on accreditation as well as with the co-ordination, management and facilitation of the programme. Relevant staff and consultants have been brought into the facilitation when particular expertise has been required.

¹ Learner-practitioners are individuals working in the field of environment.

² The Environmental Learning Forum was a network of organisations and individuals, working collaboratively towards relevant, high quality environmental education and training. It provided an interface between providers, employers, learners and the relevant SETAs, which lead to the development and implementation of locally relevant, contextualised learning programmes.

1.2.5 Structure of the National Diploma in EETDP at DEC

Table 1.2 Structure of the Delta Environmental Centre National Diploma in EETDP

Module	Focus of the Module	Duration of Module
Module One: Understanding Environmental Issues and Risks	- Understanding environmental issues and risks - People-environment relationships over time - Environmental management and environmental justice - Environmental ethics - Analysing environmental issues in context	10 days + 5 days support
Module Two: Environmental Management within an OBE context	- Recapping of environmental policies, goals and principles - Understanding people-environment relationships over time - Exploring environmental education methods and processes - Taking environmental action	10 days + 5 days support
Module Three: Developing Environmental Learning Programmes	- Planning a learning event - Selecting and adapting a contextually relevant learning programme - Developing learning programmes to enhance participation of learners with special needs - Designing, developing and critically evaluating an original environmental learning programme	5 days + 3 days support
Module Four: Facilitating Environmental Learning Programmes	- Plan and prepare for facilitation - Facilitate learning - Evaluate learning and facilitation - Present in a public setting	5 days + 2 days support
Module Five: Evaluating Environmental Learning Programmes	Evaluate learning programmes	5 days + 2 days support
Module Six: Designing and Developing Environmental Learning and Teaching Support Materials	- Develop learning programmes to enhance participation of learners with special needs - Select, adapt and use existing environmental learning support materials and develop own supplementary learning aids - Develop training materials - Develop original learning support materials for an environmental learning programme	5 days + 5 days support
Module Seven: Implementing Environmental Learning Programmes	- Implement and evaluate an environmental learning programme - Manage a learning environment appropriately for a learner group - Fulfil administrative requirements of an environmental learning programme or action project - Reflect on own performance as an environmental education practitioner	5 days + 3 days support
Module Eight: Conducting Outcomes Based Assessment in an Environmental Context	Plan and conduct outcomes based assessment in environmental contexts	5 days + 2 days support
Module Nine: Cross-Cutting Module	Focuses on the fundamental workplace practices of observing social protocols, practising literacy skills, organising oneself in the workplace	Ongoing + 2 days support

The National Diploma in EETDP is a two-year course consisting of 240 credits on the NQF and is located at NQF level 5. The course is offered through DEC as a series of nine modules over 24

months. The modules are structured in the following way, as described in Table 1.2.

This research focuses on Modules 3, 6 and 7. The reason for selecting only these modules is because Module 3 explores the development of learning programmes, Module 6 focuses on development of learning support materials and Module 7 looks at the implementation of the programme that has been designed and is a culmination of the theory that has been learnt in preceding modules. Data quantity and management were also key factors in selecting three modules.

Learner-practitioners complete a series of *on-course tasks* (completed during course sessions), and *work-integrated tasks* (completed in the workplace and linked to work priorities). Both on-course and work-integrated tasks are collated into a Portfolio of Evidence (PoE). A PoE is a document in which learner-practitioners collate all their learning tasks to provide evidence for assessment purposes.

Learners move, literally and cognitively, between the workplace, the EETDP course and back into the workplace, due to the course delivery model, the course pedagogy and assessment strategies. The course pedagogy focuses on the professional work of the learner-practitioners and uses work-integrated activities to help them compile a portfolio of evidence for their course assessment. Assessment also takes place through a process of workplace observations, interviews with managers and on-course observations.

1.3. Selection of Research Sites

In conducting this research on work-integrated learning and course pedagogy, I needed to identify suitable research sites for the case studies. The first research site was the Delta Environmental Centre that offers the National Diploma in EETDP course. This research site was accessible to me as a researcher because it is my workplace, and I co-designed and co-facilitated the course.

The majority of students on the 2009-2011 National Diploma in EETDP course worked in provincial or local government. I chose to work with one EETDP learner-practitioner from each of the following two research sites:

- A Provincial Department of Agriculture and Rural Development
- A Metropolitan Municipality

In both cases, the learner-practitioner's professional practice involved implementing the priorities of their organisations, focusing on environmental sustainability issues, in alignment with policies,

legislation, governmental priorities and the South African Constitution. For confidentiality, I have called them learner-practitioner 1 and 2. Learner-practitioner 1 was chosen because she was the only participant on the course who worked in the local municipality. Learner-practitioner 2 was selected because she chose to continue on the course and fund her own studies when the Provincial Government Department delayed the funding for year 2 of the course. The two learner-practitioners were also selected because it was hoped that the study would be strengthened by understanding a Provincial and Local government perspective of training and development practice.

Learner-practitioner 1 works at the Metropolitan Municipality as an environmental officer in the Community Development and Awareness Unit, and is involved in the 'Clean and Green' campaign at the local municipal level in her province. She works with communities and educational institutions to help people respond to environmental issues and risks.

Learner-practitioner 2 is from the provincial Department of Agriculture and Rural Development and works as a senior communications officer in the Communication and Awareness Department. Her main activity is events management. She is part of a team that co-ordinates events for all the sections within her organisation, for example, the 'Female Farmer of the Year' awards ceremony, and the provincial 'Clean and Green' campaign. More details of the two workplaces and the professional practices of these two selected EETD learner-practitioners are provided in Chapter Four.

1.4 Research Question and Goals

As described above, my work as the manager and lead facilitator of the National Diploma in EETDP at Delta Environmental Centre stimulated my interest in the relationship between the course curriculum and the professional practices of learner-practitioners in their workplaces. In attempting to respond to curriculum changes in the SETA systems and the need to re-design the National Diploma EETDP in the future it was necessary to understand how the pedagogy used on the course was supporting learners to do their work in their workplaces. While recognising that a wide range of factors may influence that relationship, I have, for the purposes of this research project, elected to focus specifically on the pedagogical dimension of the course curriculum.

The research question is: What is the relationship between course pedagogy and workplace learning? In order to answer this question through the case study of Delta Environmental Centre's National Diploma in EETDP, I have attempted to address the following research goals:

- Goal 1: To understand the context, history and intentions of the course pedagogy in Delta Environmental Centre's National Diploma in EETDP.

- Goal 2: To explore and describe the professional practice of two EETDP learner-practitioners.
- Goal 3: To explore relationships between the course's pedagogy and learners' workplace practice.

The research is conducted with a view to:

- Informing future pedagogies for work-integrated EETDP courses, in particular at DEC, but also more widely in South Africa;
- Informing and improving the design of NQF-aligned, work-integrated courses in the context of socio-ecological sustainability.

1.5. Overview of chapters

The study consists of the following six chapters:

Chapter One: This chapter introduces the study and provides clarity about the context of the research sites, the learner-practitioners and the background to the National Diploma in Environmental Education, Training and Development Practice (EETDP). The structure of the course and the context in which it developed is scoped and explained.

Chapter Two: This chapter reviews current literature in the field of EETDP; workplace learning, pedagogy, social learning and the capabilities perspectives have been scoped and presented. The chapter explores the relationship between pedagogies for socio-ecological sustainability, social learning and capabilities and suggests that a critical pedagogy underpinned by reflexive ways of thinking can contribute towards a critical mode of being who is capable of valuing the importance of a sustainable lifestyle.

Chapter Three: The research design using a qualitative case study data is discussed and an interpretive analysis is undertaken to provide insight on the methodological approaches and data generation methods. Research design decisions are justified and insights highlighted. The research ethics are also discussed.

Chapter Four: The data gathered is organised, sequenced and presented into a coherent and logical narrative that enables the emerging pedagogies and workplace learning processes to surface. I follow the emerging pedagogies from the course and explore their application to workplace learning. In Chapter Four, three key pedagogical approaches are scoped and highlighted, namely scaffolding, reflexivity and situated learning experiences underpinned by experiential encounters are foregrounded. The pedagogies enhancing the approaches, namely reading, the use of open-

ended questioning and dialogue together with the structure of course materials and assessment processes, are discussed in detail.

Chapter Five: In Chapter Five I discuss the emerging findings that have surfaced from Chapter Four. The key emerging findings explore the value of dialogue, open-ended questions, reading, reflexive and situated approaches in supporting learner practitioners to create meaning of the learning experiences. However, the assessment practices are sometimes difficult to fit into the workplace practices of learner practitioners in a natural and coherent manner.

Chapter Six: Chapter Six reflects on the research process and presents a concluding summary of the study undertaken. Some initial insights are provided as recommendations for people working in this field using a similar methodological framework. Chapter Six explores the importance of pedagogies in supporting Education for Sustainable Development competencies, and pedagogical practices that involve learner-practitioners in co-participation of curriculum design to ensure relevance to workplace practices.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter begins with a discussion on qualifications and pedagogy in the South African post-schooling sector, thereafter exploring professional development and course provisioning in South African environmental education and training. The context of this case study is provided through a discussion focusing on the socio-ecological challenges experienced in the province (Gauteng). Training needs and capabilities required to respond to these complex social-ecological challenges are explored. The discussion later focuses on the theoretical framework of this study and provides a literature-based discussion on workplace learning, social learning and human capabilities. Drawing on the work of Nobel Prize-winning economist, Amartya Sen, I outline the key concepts of capabilities, functionings and freedoms within a social-ecological framework and in relation to course pedagogy. The chapter then reviews theories of social learning, drawing in particular on the work of Wals (2007) and Glasser (2007) who considered social learning processes in contexts of social-ecological change.

2.2. Qualifications and Pedagogy in the South African Post-Schooling Sector

The purpose of this section is to outline and provide an overview of the Post-Schooling Sector in South Africa, particularly in relation to occupational qualifications embedded in SAQA. In the discussions that follow, I consider the transformative intention of SAQA and the NQF, the policy frameworks that have informed the NQF, the features of the NQF and their pedagogical implications, and the tensions and critical debates affecting curriculum development in the NQF. These discussions form an important background to the area of course pedagogy and workplace learning, as will be discussed in section 2.3.

2.2.1 The transformative intention of SAQA and the NQF

Training for and at work is not a new phenomenon in South Africa but has evolved through models of vocational training. Prior to 1994, vocational training was delivered through an apprenticeship model; this was however viewed in a negative light as fulfilling the nationalist government's agenda of racial oppression (Kraak, 2004). The roots of the NQF can be found amongst the various research reports presented by the National Training Board/Human Sciences Research Council and amongst the protests against the apartheid state's fragmentation of education and training (Lugg, 2009).

The NQF was the first piece of education legislation passed by the new democratically elected government of South Africa. The NQF was viewed as an opportunity to address the low level of skills within the country by integrating education and training into a “coherent approach to qualifications” (Lugg, 2009, p. 43). The new structure of the NQF aimed to provide greater access to education and training for the adult workforce and address government priorities of poverty alleviation and unemployment (Kraak, 2001). Trade Unions saw the emergent NQF as an opportunity to transform the education system and to enhance learning opportunities for the country’s workforce.

During the process of transition to a post-apartheid democracy, the South African NQF was conceptualised to encompass people’s hopes and dreams of a transformed education and training system (Walters & Isaacs, 2009). The expectation amongst the unions, educationalists, employers and government was that the NQF would address issues of access, redress, portability, progression and enable people to become lifelong learners (Allais, 2007).

According to Walters & Isaacs (2009) the first version of the NQF of 1997 was viewed during its inception as a “transformative instrument” which would “expand the ways in which people are able to acquire learning and qualifications of high quality” (DoE & DoL, 2002). It was to be a system for the integration of education and training. Curriculum innovation would be encouraged in response to community and industry demands (Gewe, 2001). The hope was that learning opportunities would be opened for the disadvantaged which would ensure that learners could progress through articulated qualification levels and coherent career paths (South Africa. Department of Education [DoE] & Department of Labour [DoL], 2002). Qualifications would transcend institutions; it would be the quality and relevance of the learning that would be important in determining a person's educational status, not the institution that she or he had been lucky or unlucky enough to attend (Republic of South Africa. DoE & DoL, 2002, p.12).

In the South African educational sector, the NQF became a key icon for movement towards democracy, and the development of a single education system for all South Africans. Allies (2007) suggested that the idea of an NQF became a point of convergence for different ideologies, discourses, practices amongst educationalists, unions, politicians, employers and the training sector itself.

According to Chisholm (2007), the concept of the NQF has evolved and become embedded within the local context in South Africa. Through the NQF, qualifications and qualification pathways have been opened to a much larger section of South African society.

As mentioned in Chapter One, the Delta Environmental Education Centre and the Wildlife and Environment Society of Southern Africa (WESSA) were two environmental organisations that became education providers of the environmental education qualifications developed for work-integrated learning. The environmental sector response at a local level will be discussed in greater detail in section 2.3.1.

Much of the NQF's context as an "indigenised competency based system" (Walters & Isaacs, 2009, p. 2) that has drawn from broader international discourses, but been applied in response to the South African context, has been shaped by national policies and legislative frameworks.

2.2.2. Policy Frameworks informing the NQF

The policies and legislative frameworks associated with SAQA and the NQF are significant because of their power to influence the way workplaces and formal training articulate. Accredited education and training providers such as Delta Environmental Centre are closely guided by these national policy frameworks when developing course curricula and, by implication, course pedagogy.

Immediately following the transition to a democratic, post-apartheid government in 1994, a plethora of national legislation and policy was developed to direct education and training in the country. Refer to Table 2.1 below for a summary of legislative frameworks in South Africa since 1994.

Table 2.1: Education and Training Policy Framework for the National Diploma in EETDP

Legislative Framework	Key Elements relevant to workplace learning
SAQA Act (No. 58 of 1995)	The SAQA Act established SAQA as a statutory body design of qualifications and to manage the South African National Qualifications Framework. It was responsible for the development of all qualifications in South Africa.
National Education Policy Act (No. 27 of 1996)	Established the Council of Ministers. The National Council for Education and Training was also regulated and established.
Higher Education Act (No 101 of 1997 – further amended)	This act regulated Higher Education and established the Council for Higher Education.
Skills Development Act (No.97. of 1998)	The Skills Development Act provided for the establishment of the sectoral education and training authorities (SETA) whose mandate was the development, accreditation and certification of learnerships, short skills programmes and Development and Practice qualifications. Some of the purposes of the Skills Development Act were to increase the level of investment in education, to encourage public private partnerships in the provision of education and training and the development of the National Skills Authority.

Legislative Framework	Key Elements relevant to workplace learning
Further Education and Training Act (No. 98 of 1998)	This Act defined the role of Further Education and Training Colleges. It foregrounded qualifications between the NQF levels 1 to 4 and bridged the gap between the General Education and Training Band and the Higher Education and Training Band.
National Skills Development Strategy of 2001 to 2005 (NSDS I)	The Title of NSDS I was “Skills for Productive Citizenship for all”. It had six key guiding principles namely: 1. Lifelong learning – continually upgrading and improving 2. The promotion of equity – opportunities for disadvantaged as well as advantaged people 3. Demand driven to support and enhance productivity 4. Flexible – employers, both public and private as well as the workers, are best placed to make judgements about priorities 5. Partnership and co-operation between and amongst the social constituencies 6. Efficiency and effectiveness in delivery leading to positive outcomes for all those who invest in training and skills development
National Skills Development Strategy: 2005 to 2010 (NSDS II)	It was entitled “Skills for sustainable growth, development and equity”. Principles guiding NSDS II were to: 1. Support economic growth for employment creation and poverty eradication 2. Promote productive citizenship for all by aligning skills development with national strategies for growth and development 3. Accelerate Broad Based Black Economic Empowerment and Employment Equity (85% Black, 54% women and 4% people with disabilities, including youth in all categories). Learners with disabilities were to be provided with reasonable accommodation such as assistive devices and access to learning and training material to enable them to have access to and participate in skills development 4. Support, monitor and evaluate the delivery and quality assurance systems necessary for the implementation of the NSDS 5. Advance the culture of excellence in skills development and lifelong learning
National Skills Development Strategy of 2010 (NSDS III)	NSDS III draws public institutions for learning and skills development sector into one department namely the Department of Higher Education and not in the Department of Labour as was the case previously. Workplace learning is given greater prominence. Concept of decent work grounds the role of broader and more focused training on full occupational competence for critical citizenship. The occupations are emphasised and respond to the needs of the occupations.
White Paper for Post School Education and Training. Building an Expanded and Effective and Integrated post School System (2013)	The White Paper provides a guide to government’s priorities and strategies for achieving post-school education. The White Paper explores articulation between various qualifications. It further elaborates on different types of institutions and partnerships. The roles of colleges (TVET, Community, Other public colleges and SAIVET) as well as universities and private providers and SETAs is explored. It explores the role of education and the workplace in creating learning and employment opportunities.
Draft Amendment to Skills Development Act, No 97 of 1998 (Nov 2015)	• Department of Higher Education and Training (10 November 2015) Skills Development Act, 1998 (Act No. 97 of 1998): A Call for Public Comments on the Document entitled <i>Proposal for the New National Skills Development Strategy (NSDS) and Sector Education and Training Authorities (SETA's) Landscape within the Context of an Integrated and Differentiated Post-School Education and Training System (NSLP-2015)</i> • This document discusses the roles of SETAs and policy revisions which need to take place. It also suggests that NSDS IV be given a period of two years because DHET has to engage in gathering public comment on DRAFT NSDS IV.

These Acts, policies and frameworks create the context of the EETDP qualifications in accordance with which the qualifications are managed. It is clear that emphasis has been placed on aspects of equity, redress, quality, lifelong learning, provisioning for the skills system and there is also a greater emphasis on occupations. There has been a shift in emphasis from National Skills Development Strategy (NSDS) I to NSDS III, and this is currently beginning to be revised under the NSDSIV framework that will come into focus in 2016. In NSDS I the employees' needs were foregrounded, whilst in NSDS II it was the skills needs of the country. In NSDS III there is a greater emphasis on the occupation and the skills needed for particular occupations (Squire, 2011). The shift and the changes in the legislation will influence how organisations like Delta Environmental Centre and other providers will conceptualise the pedagogy in the future to ground the workplace aspects and the tasks undertaken. In NSDS I and II the Foundational, Practical and Reflexive competences were emphasised. NSDS III, however, places the emphasis on increasing access to occupationally directed programmes and on workplace based skills development with greater emphasis on the occupation and the tasks required for a particular occupation. The Quality Council for Trade and Occupations (QCTO) established through the Skills Development Amendment Act 37 of 2008 is still developing and registering qualifications related to occupations, therefore the current qualifications e.g. the National Diploma in EETDP will continue until 2016. NSDS IV will take forward the focus on occupationally directed education and training.

The National Diploma in EETDP as developed and implemented by Delta Environmental Centre was managed against these Acts, policies and frameworks. The following section distils from these policies some of the key features of the national system and considers their implications for course pedagogy.

2.2.3 Key features of the NQF and their pedagogical implications

The NQF was built on the principles of integration, relevance, credibility, coherence, flexibility, standards-based, legitimacy, access, articulation, progression, portability, and recognition of prior learning (Isaacs, 2000). Although I recognise that all the principles are important, in this section I review two of these principles: integration and standards-based, as they are of particular importance to this study. I also discuss the proposed methodology of Outcomes Based Education on which educational reform in South Africa was based as a way to bring about systemic change to an apartheid system of education as highlighted by Spady (1994). Within each discussion, I consider their implications for curriculum design and course pedagogy in the DEC context.

2.2.3.1. Integration

The concept of integration is a huge area of discussion within the NQF and has various discourses associated with it. This study approaches the concept of integration from a policy, systemic process perspective, with an emphasis on the influence of integration on curriculum design and assessment at provider level. The complexity in understanding integration has been highlighted by Keevy (2006) and Young (2012, in SAQA, 2012) who call for efforts to create clarity and a better understanding of integration, especially of its scope and purpose, and Raffe (2012, in SAQA, 2012) who calls for the goals of an integrative framework to be clarified.

SAQA documents have made reference to the concept of integration as: “forming part of a system of human resources development that provides for the establishment of a unifying approach to education and training” (Isaacs, 2000. p. 5). Integration has a key role to play in terms of curriculum design because, in a workplace-based curriculum, it refers to the bringing together of theory and practice and reconstituting knowledge and practice by drawing on ‘the world of work’, ‘the world of curriculum’ and ‘the world of professional practice’ (Isaacs, 2000, p. 23).

The concept of integration is further illustrated in SAQA documents when reference is made to ‘integrated assessment’ associated with applied competence (SAQA, 2001). Applied competence refers to “learners’ ability to integrate concepts, ideas and actions in authentic, real-life contexts. It is expressed as practical, foundational and reflexive competence” (SAQA, 2001, p. 11).

Assessment therefore focuses on learners’ ability to integrate each of these competences:

- *Practical competence* – the demonstrated ability to perform a set of tasks and actions in authentic contexts;
- *Foundational competence* – the demonstrated understanding of what we are doing and why we are doing it;
- *Reflexive competence* – the demonstrated ability to integrate our performances with our understanding so that we are able to adapt to changed circumstances and explain the reason behind these adaptations. (SAQA, 2001, p. 11)

The SAQA guidelines on integrated assessment also make reference to integration of assessment *across* a learning programme because:

knowledge is problem-oriented; it attempts to solve problems by drawing on multiple disciplines, which interact in the real-world contexts of use and application, yielding solutions and new knowledge which are not easily reducible to any of the participating disciplines. (Kraak, 2000, p. 15)

At the level of education and training providers such as at DEC, assessment should therefore be *integrated across* the learning programme with a strong focus on applied competence and course pedagogies should aim to support the integration of competencies.

2.2.3.2. Standards-based

In this section, I focus on Unit Standards which are understood to be specific descriptions of learning achievements that ensure that even the smallest unit of educational achievement can be credited for certification (South Africa. DoE & DoL, 2002, p. 77). According to SAQA (2012, p. 28), Unit Standards describe, “the performance, the range and assessment criteria against which the demonstration of an outcome will be judged”. A Unit Standard’s ‘range statement’ specifies its scope, whilst the ‘specific outcomes’ refer to: “contextually demonstrated knowledge, skills and values, reflecting essential outcomes” (SAQA, 2012. p. 28). Specific Outcomes are considered the building blocks of Unit Standards together with other elements such as ‘assessment criteria’.

The term ‘Unit Standards’ has also been used to describe outcomes in terms of knowledge to be obtained, skills to be acquired, and values and attitudes to be assimilated by learners (Allais, 2003). According to Allais (2003), this has profoundly influenced the competency-based framework of education and training in South Africa which places competence at the heart of learning. This has, however, been heavily critiqued, especially in terms of its implications for working with knowledge. Young (2003) highlighted that in working with Unit Standards and competency based qualifications in the United Kingdom, he has found it difficult to derive the underpinning knowledge from the Unit Standards. Young discussed how, as a consequence of this epistemological weakness, some Unit Standards-based qualifications have “lacked a knowledge base” and have “become barriers to progression” (2003, p. 7). This point is further highlighted by Allais (2014) who suggested that in an attempt to make the curriculum more accessible, we have over-emphasised competence and skills at the expense of knowledge.

In the original conceptualisation of Unit Standards in South Africa, SAQA believed that a broad approach to standards-setting would result in broad approaches to learning. However, Unit Standards have become much more specified and, increasingly, it appears as if education and training providers have translated, in a rigid or narrow way, each Unit Standard into a section, module, or chapter of a book or other learning material. The curriculum (and even pedagogy) of SAQA-aligned qualification is, if not totally determined, strongly driven by the specification of standards and qualifications (Allais, 2003). Muller (2000, cited in Allais, 2003) has argued that locating the Unit Standards in a constructivist ideology masks the fact that the knowledge is always being selected through the unit standards. In the context of environmental education qualifications

and short courses, Elliot (2007) argues that a standards-based methodology is a normative framework, which causes tensions in environmental education because it tends to put learning into little boxes or statements, which defies the interdisciplinary nature of environmental learning.

I have chosen to highlight these discussions because, in designing the curriculum and the pedagogy the National Diploma in EETDP's implementation through Delta Environmental Centre, staff have had to use and interpret the Unit Standards against the field of practice and the key aspects of being an Environmental Education practitioner in a particular context, to make adequate meaning of the Unit Standards.

Another feature of the NQF is the outcomes-based methodology which it tends to support. The section that follows surveys the concept of outcomes-based methodology and highlights key critiques and associated ideas.

2.2.3.3 Outcomes Based Education

The underlying methodology proposed for teaching and learning at all levels of the NQF from school to post-schooling is Outcomes Based Education (OBE). In the South African context, OBE was upheld for its potential to promote a critical pedagogy because it had a transformative purpose for education that encouraged new ways of learning. As suggested by Moll et al. (2005, in Walters & Isaacs, 2009): "a policy decision was made in the mid-1990s, to use the term 'Outcomes Based Education' to ensure a more holistic and 'constructivist' view of learning that would not reduce competence to only the observable but would include the consciousness and conscience of the learner" (p.11).

If viewed from a constructivist point of view, outcomes-based methodology offers strong elements of reflexivity and engages learners in active learning approaches; learning takes place in real situations and involves social negotiation and mediation. The teacher becomes more of a co-learner and guide and learning becomes more learner-centred (Alexander & November, 2010).

Counter-arguments, however, suggest that, if considered from a behaviourist perspective, OBE can become prescriptive. Outcome statements are merely descriptions of observable and measurable *behaviours*. Allais (2007, p. 275) noted that because learning is complex to describe, the outcome statements of SAQA qualifications have become highly "specified". Hence, instead of the NQF and its curriculum design being a basis for public engagement and involvement, it becomes a "risk" because efforts to specify levels of achievement upfront become too specified and the "jargon" is placed outside the realm of the very people it should support (Walters & Isaacs, 2009). In the light

of this, Walters and Isaacs (2009, p. 19) insightfully reflected that: “A design down approach, which begins with outcome statements, is oriented away from actual curriculum, pedagogic and assessment practices towards policy and design criteria”.

In this study, these principles of integration, standards-based assessment and an outcomes-based approach to teaching and learning (amongst other features of SAQA and the NQF) will be important features to identify and track in the workplace pedagogies of the National Diploma in EETDP course. In the following section, I highlight other significant systemic tensions of relevance to DEC’s design and implementation of the course curriculum.

2.2.4. Tensions and critical debates affecting curriculum development in the NQF

In this section I focus on three key debates relating to curriculum design and implementation, noting, however, that these are not exhaustive of the critical debates related to SAQA, the NQF and issues of lifelong learning. Some of the critical debates and tensions which have plagued the NQF in terms of curriculum design are traceable to the implementation of the principles of curriculum design in practice. Jansen (2012, as cited in SAQA, 2012) discussed four reasons why the NQF has not made adequate input into the education and training landscape. He firstly outlined the tension between “idealism and euphoria in policy making” (SAQA, 2012, p. 153). He argues that because of the need to transform education in South Africa, the NQF was viewed hopefully as contributing to “employment access”, “economic development”, “career paths” and “redress” which was too much to achieve through policy alone. He further highlighted the second tension which was the separation of education and training between two government departments, namely, the Department of Education and the Department of Labour. This, in his view, hindered institutional and administrative aspects. The third reason for SAQA’s under-achievement put forward by Jansen (2012, as cited by SAQA 2012) is the lack of a credible “theory of action” which would take the good ideas and implant them in educational practices. In his view, “the simple has become complex and has become inaccessible to the practitioners themselves” (*ibid.*, p. 153).

It must be acknowledged that the intentions of the NQF and its principles have been ‘good ideas’, but as Jansen (2012, cited in SAQA, 2012, p. 153) has suggested, it has become lost amongst the “bureaucratic and administrative apparatus ... as a result, the simple founding principles of the NQF have become lost to ordinary people”.

The NQF was meant to support Peoples’ Education; the pedagogies that are implied in the delivery of courses should be emancipatory, democratic, enabling of freedom, and acknowledge different ways of knowing. However, the current structure and interpretations have posed challenges associated with the normative nature of Unit Standards (as discussed above in 2.3.3.2, leading

Allais (2003, p. 1) to describe the NQF as a “democratic project trapped in a neo-liberal paradigm”.

2.3. Professional development and course provisioning in the South African Environmental Education and Training Sector

2.3.1 The development of EETDP qualifications (1998 – 2008)

Environment-related, work-integrated qualifications and their development are discussed in the first chapter of this thesis (see sections 1.2.2.1 and 1.2.4). In Chapter One, I traced the development path of the National Diploma in EETDP qualification in relation to the national education and training landscape in South Africa, and explored how it became embedded in the institutional context of the Delta Environmental Centre from 2005 onwards. Against this background, I now review more recent national developments and the way they have influenced the National Diploma in EETDP.

2.3.2. Current changes to the national system (2009 – 2014)

Significant ruptures within the various training structures have hindered the effective implementation, portability and articulation of qualifications on the NQF, most notably the Council for Higher Education’s (CHE) reluctance to accept the SETAs as part of the institutional landscape of Higher Education (Lugg, 2009).

In 1998, there were calls for the review of the NQF and in 2001, the Ministers of Education and Labour called for the a review of the NQF as it was not adequately addressing the inequalities. This resulted in a revised South African National Qualifications Framework Act (2008) being signed in February 2009. Key changes included: changing from an 8-level to a 10-level NQF (with implications for the location of qualifications on the NQF and credit allocation); and the restructuring of the single integrated qualification framework into three related sub-frameworks: the Higher Education Qualifications Sub-Framework (HEQSF), the Occupational Qualifications Sub-Framework (OQSF) and the General and Further Education and Training Sub-Framework (GFETQSF).

Most relevant to this study is the Occupational Qualifications Sub-Framework, although it should be noted that it came into existence only *after* National Diploma in EETDP was developed and *after* the data for this case study was generated and analysed. Its relevance is due to the implications it carries for the future of the National Diploma in EETDP qualification and for the Delta Environmental Centre more generally. Below, I outline some of the most significant changes.

There has also been a shift in the establishment of three quality assurance councils, namely

Umalusi, Council for Higher Education and the quality Council for Trade and Occupations. The Diploma in EETDP would be located under the Quality Council for Trade and Occupations because it is an occupationally based qualification.

According to Squire (2011) NSDS III emphasises institutional learning linked to occupationally directed programmes. Greater emphasis is placed on aspects of work experience and curriculum development linked to occupational groups and occupational tasks. Qualifications in the Occupational learning system will be framed according to the purpose of the occupation, the occupational tasks, general knowledge and theory, practical skills and work experience. The Unit Standards will be replaced by the aspects of theory, practical and work experience (Squire, 2011). The NSDS III Progress Report 2011-2013, further highlights the emphasis on workplace experiential learning opportunities. The recommendation in the report suggests that key partnerships between education and training systems and employers must be established and prioritised to ensure workplace opportunities are provided and to maintain labour market relevance. (South Africa. Department of Higher Education and Training [DHET], 2013)

Currently the National Diploma in EETDP remains as a legacy qualification³ with the EETDP-SETA. From 2016 onwards, DEC will experience a challenge because the Occupation of Environmental Educator has not been recognised on the OFO⁴ system. As a result DEC is currently exploring the Occupational Trainer and Training and Development Professional qualification. The components of knowledge, practical and work experience whilst remaining generic to the occupation will also need to be made specific to the sector of environmental education.

2.3.3. The Scope of environmentally-orientated education and training in South Africa

The Environmental Sector Skills Plan (ESSP) for South Africa (South Africa. DEA, 2010. p.23.) identifies skills gaps in the country's environmental sector and makes recommendations to strengthen skills planning through national and provincial structures. For example, one recommendation is to include an environmental driver into the Sector Skills Plans of each Sector Education and Training Authority (SETA). The document also reports that the South African public sector employs approximately 48 500 people with high, intermediate and entry level environmental skills. The National and Provincial Government (*excluding* those employed through the water sector) employs 4 500 people and Local Government 37 000 in environmentally-oriented jobs. Additionally, the non-profit sector employs approximately 33 000 people and the Small, Medium and Micro-Enterprise (SMME) and industry sector employs approximately 150 000 people with environmentally related skills. In total, the estimated employment in the country's Environmental

³ Legacy qualification: The original qualifications developed by SAQA which have not yet been taken up by the QCTO.

⁴ OFO: Organising Framework for Occupations

Sector (*excluding* those in the water sector and teachers of ‘environmental’ subjects in schools such as Life Sciences and Geography) is 233 000 people (South Africa. DEA, 2010). This is substantial and poses challenges to the currently inadequate national system of education and training providers (in the SETA-based system and under the Council for Higher Education) to respond to the demand for environment-oriented education and training.

Providing this scale of environmentally-oriented education and training across the NQF implies the availability of appropriately qualified education, training and development practitioners. According to the Environmental Sector Skills Plan, however, the national system of education and training is ill-equipped to provide for the future needs for environmental education and training (DEA, 2010). Although a full complement of Environmental Education, Training and Development Practices (EETDP) qualifications from NQF Level 5 to 8 have been registered with SAQA since 2002, limited funding and capacity has hindered their actual implementation. For example, the pre-requisite needs analysis for the National Certificate in EETDP conducted by Wigley and Olvitt in 2004, and on which this study’s National Diploma in EETDP builds, was funded by WWF-South Africa, and conducted through a participatory process with national environmental education stakeholders (Wigley & Olvitt, 2005; Wigley, 2006), mostly on a voluntary and self-funded basis. By 2013, the only full qualifications in EETDP to be implemented were the National Certificate: EETDP and National Diploma: EETDP.

Part of this study’s intended contribution is share insights into the relationship between the pedagogy of the National Diploma in EETDP and public sector environmental workplaces. Such insights may guide future curriculum development of existing and/or incoming qualifications that develop human capital in the environmental sector of South Africa. The following section introduces the main sustainable development challenges and priorities in a particular identified province in South Africa, as these form the social-ecological context of the two employees as they studied the National Diploma in EETDP.

2.4. Sustainable Development Challenges in the Identified Province

Human development, natural resource management, poverty alleviation and employment creation are fundamental to the language in National Development Plan (Presidency of the Republic of South Africa, 2011) and in provincial and local government discourses. The identified province in this research, one of the smallest provinces in South Africa but also the most economically powerful, is located within this dilemma of managing the resources, people and development in a fair, equitable and sustainable manner.

2.4.1. People, resources and development: A challenge for democratic governance

The province is 76 495 square kilometres and occupies a mere 1, 4 % of South Africa's total land area. It is home to approximately 12 272 263 people and has an unemployment rate of 32.8%. Significantly, 89.4% of the population has access to piped water inside their dwellings and 83.9% has access to electricity for cooking (Statistics South Africa, 2011). Economic development is one of the key driving forces for the province and for the country. The high levels of development, industrial and mining activities, population growth and urbanisation foster challenges and opportunities for the management and use of its natural resources (Gauteng Department of Agriculture and Rural Development, 2011).

Within the province, rapidly increasing levels of unemployment and poverty, the prevalence of HIV/AIDS, and the widening gap between rich and poor combine to have a detrimental impact on the biophysical environment. Table 2.2. summarises the environmental concerns in the province, based on the provincial State of Environment Report [SOER] GDARD (2011).

In terms of biodiversity, the province has experienced changes in land cover due to human activities, cultivation, urban sprawl and mining which have altered or destroyed natural habitats. Habitat loss, degradation and fragmentation are posing the greatest challenges to biodiversity in the province. It is expected that by 2050 no natural habitat will remain in the province. Only 39% of the land currently has natural vegetation and 10.8% is considered degraded. Only 8.7% of the provincial land is suitable for agricultural use.

Pressures affecting the quality of air in the province include energy (where multiple domestic fuel types namely paraffin, coal and wood) affect the ambient levels of sulphur dioxide, nitrogen dioxide, carbon monoxide, carbon dioxide, ozone and particulate matter. Vehicle emissions due to the lack of public transport and high vehicle numbers continue to contribute to about 90% of the carbon monoxide produced.

Mining activities pose a challenge to the scarce water resources in the province. Some of the critical factors putting pressure on the province's water resources include the high demand for water, access to potable water and sanitation services, urban development, agriculture and population growth.

The province produces more than 42% of the total waste in the country which creates a challenge with regard to space in landfills. Most of the current landfill sites will reach their lifespan within the next ten years. Thirty percent of all service delivery protests for basic services have happened

in the province. However the provincial SOER (2011) indicated that access to services in the province is improving and a higher number of households currently have access to all basic services.

2.4.2. Education and training needs in Provincial and Local government

Environmental changes, risks and issues are contextual in nature, contested, changing and uncertain (Lotz-Sisitka, Wals, Kronlid, & McGarry, 2015) and these pose wide-ranging challenges for individuals working in local and provincial government contexts. Olvitt and Hamaamba (2006, p. 132) indicated a need for municipal staff to have more “in depth knowledge of environmental issues and risks” together with other competencies relevant to environmental management which they categorised into foundational, practical and reflexive competencies. For example, one of the practical competencies needed was to be able to identify environmental issues and risks. Important foundational competences involved:

understanding the causes and effects of issues (long-term causes and effects as well as short-term causes and effects), understanding the way in which environmental issues and risks are interrelated (e.g. sanitation and illegal dumping), understanding socio-cultural and technical aspects of environmental issues (e.g. livestock issues). (Olvitt & Hamaamba, 2006, p. 132)

Reflexive competence required by the municipal staff, according to Olvitt & Hamaamba (2006), involves the ability to evaluate and make decisions and to assess alternative solutions to the challenges identified.

There is, however, a gap between the identification of necessary competences, and their actual development in local government workplaces. The Local Government Sector Skills Plan (2005 – 2010) identified the capacity constraints at both institutional and individual levels within Local Government. The document listed the following individual capacity shortcomings:

... inadequate technical skills required, inadequate knowledge and information base in the municipality, poor understanding of legal framework in municipalities, insufficient expertise to interpret and translate legislation and policies into action, lack of in-house technical abilities to develop systems, support internal processes, perform all the municipal functions and to accommodate new functions. Lack of service orientated attitude and behaviour. (LGSETA, 2008, p.18)

At an institutional level some of the factors affecting capacity are linked to a mismatch between the

staff organogram and the functions to be performed, insufficient leadership for change management in the municipality, bureaucratic systems that do not support projects and programmes on the Institutional Development Plan (IDP) and a limited understanding of the vision and mission of the municipality (LGSETA, 2008 p.19). The Local Government Sector Skills Plan further identifies the following as necessary generic skills: report writing, problem-solving, analytic skills, community awareness, planning and organising skills. At a technical level, the following skills were prioritised: research and policy skills, Geographic Information Systems, skills related to water conservation and water management, waste management amongst others.

In the more recent LGSETA Sector Skills Review 2011-2016 document, it is highlighted that environmental engineers and environmental managers are occupations where a need exists. The document also highlights the capacity needed by the staff in the local government sector to implement the concept of the smart cities⁵ and to implement the Green Economy Accord⁶ signed in 2011. A critical high skill noted towards transitioning to a green economy is environmental policy and law (LGSETA, 2013).

A fundamental implication here is that current jobs, worker skills, and how jobs are done, will change by incorporating elements of sustainability and green practices in job descriptions (LGSETA, 2013). This means that pivotal programmes, skills programmes which build on supporting critical skills which bridge the gap between changing knowledge and practices of the job and work through work-integrated courses, become increasingly significant.

2.5. Work-integrated Learning

The concept of work is also at the centre of most discussions on workplace learning and work-based learning. In this study, work is understood as being an “enabled purposive effort by an individual to initiate activity or respond to an issue or problem in a range of situations for some perceived (by them) productive end” (Cairns & Malloch, cited in Malloch, Cairns, Evans and O’Connor 2008, p. 6). The reason for selecting this definition is that it provides a broader and more open understanding of the concept of work in an era when the nature of work is changing through globalisation.

In this study, the National Diploma in EETDP is presented as a work-integrated course. The National Diploma in EETDP, as offered through the Delta Environmental Centre, is a course within which learners come to the Centre for contact sessions and return to their places of work. All tasks

⁵ The smart city concept has six pillars – smart economy, smart people, smart mobility, smart governance, smart environment and smart living.

⁶ The Green Economy Accord was signed in 2011 as part of achieving the country’s target of creating five million jobs by 2020. The Accord has 12 commitments which focus on moving towards a low carbon economy.

set during the contact sessions draw on experiences in the workplace and have to be completed as part of the work the learners are engaged in. As such, work forms an integral part of the learning on the National Diploma in the EETDP course.

Boud and Soloman (2001) considered ‘work-based learning’ as a term to describe a group of formally accredited programmes that bring together educational institutions and work organisations in order to create opportunities for learning by individuals within the workplace. Boud and Soloman (2001) highlighted six key characteristics which work-based learning programmes share:

- There is a partnership that exists between the educational institution and an organisation that is specifically developed to enhance learning.
- The learners involved are either employees of the organisation or have a signed contract with the organisation.
- All learners have different learning needs.
- Work is the curriculum and is linked to the needs of the individual and the organisation.
- Learning projects are undertaken in the workplace.
- The educational institution will assess the outcomes according to frameworks and standards that have been set. (Boud & Soloman, 2001, p. 10)

The concept of work-based learning is nonetheless contentious. Evan, Guile and Harris (2011) argue that the relationship between work and learning is reflected in numerous discourses and it is important for those working in the area of work-based learning to be aware of the perspective from which they approach the concept. They caution, however, that attempts at clarification will inevitably bring tensions, oppositions and exclusions, despite extensive literature on the topic. At the core of these diverse perspectives is the understanding that work-based learning is about:

... bringing together at the point of use, different types of knowledge underpinned by different values and logics. Understanding how different forms of knowledge are ‘recontextualised’ as people move between sites of learning and practice in work, education and community settings provides new ways of bringing together theory and practice in and through work-based learning. (Evan et al., 2011, p.149)

According to Boud and Symes (2000) a distinction can be drawn between the concepts of workplace learning and work-based learning. Their definition of workplace learning relates to learning taking place on a day-to-day basis at work as employees acquire new skills and develop new approaches to solving problems. Boud and Symes (2000) noted on the other hand that work-based learning has a formal qualification that has the workplace at the heart of the course and work as the curriculum.

Fenwick (2000) has suggested that the field of learning for and at work is conflicted in terms of meanings, understandings and ideologies. She made a significant point when she stated that: “meaningful work and learning are inseparable and unfold in communities whose creativity is directed towards contributing to the general ‘good’ ... and that people grow in their work by becoming conscious participants in caring relationships” (p. 295). It is important to note that meaningful work and learning are co-constituting, a point which resonates with longstanding debates around “theory and practice” in the field of work and learning.

Work and its unfolding in the workplace is at the core of the work-integrated learning experience. According to Boud and Soloman (2001) “workplaces are varied” (p. 22). A workplace can range from a school to a formal organisation, a website, a kitchen table or even a car (Fenwick, 2009). With the increasing amount of technology, it is possible to work from anywhere. Hence a workplace is the “actual site within which an individual is located through which they engage in work and are sometimes paid or unpaid” (Fenwick, 2009). It could be made up of a single individual or a group of people. The workplace of the learners on this course is explored as a Provincial Department of Environment and a Metropolitan Municipality as an organisation.

2.5.1. Learning through Work

Perspectives on work-integrated learning have emerged variously from the fields of Human Resource Development or education and training. Irrespective of their origins, perspectives on work-integrated learning require an understanding of adult learning. In this section I briefly review some conceptualisations of how adults learn and from that try to understand their implications for course pedagogy.

Understanding that adults learn differently from children can be traced all the way to early thoughts and ideas in learning theory, to the work of people like Piaget, Vygotsky, Rogers and other theorists (Knowles, Holton, & Swanson, 2005, pp. 21-22). Knowles et al., (2005, p. 40) presented five key assumptions about adult learners:

- Adults are motivated to learn as they experience needs and interests that learning will satisfy.
- Adults’ orientation to learning is life-directed.
- Experience is the richest source for adults’ learning.
- Adults have a deep need to be self-directing.
- Individual differences among people increase with age.

The assumption that adults are self-directing is grounded on the understanding that adults have life

experience and knowledge. Additionally, Knowles (1980, p. 42) argues that adult learners have, “learning needs prompted by their changing life roles; and are internally motivated toward problem-centred learning that has immediate application to their lives”.

These assumptions are significant because they imply that experience should become the basis for learning and that experiences in relevant situations would be fundamental to the learning processes. The implication for educators on courses such as the National Diploma in EETDP is that, “we cannot teach another person directly; we can only facilitate his learning” (Rogers as quoted in Knowles et al., 2005, p. 43). An enquiry-based methodology arising from real situations and experiences and on the construction of shared meaning is likely to be appropriate in such learning contexts (Knowles et al., 2005). The facilitator thus becomes a critical guide of the learning and someone who acknowledges the importance of the life knowledge of the learner-practitioner, rather than being the ‘expert’.

A fundamental critique of the work by Knowles et al. (Hansman, 2001) relates to their primary focus on the internal motivation of learners and an inadequate exploration of the external motivation factors that influence adults’ learning, for example, striving to improve their employment opportunities, their earning potential or social capital. Their work has also had a strong focus on individual learning and has not focused much on the social learning context (Hansman, 2001).

Fenwick (2000), who also focused on work and adult learning, notably argued that organisations’ patience for processes that foster rich human characteristics are limited particularly because the market economy often is a driving force focusing more on profit and productivity. She also argued that often educators working in the field of worker development are “frustrated because they struggle to get people to actually use what they have supposedly learned” (Fenwick, 2000, p. 296). She further referred to the challenge that “lessons learnt in a classroom do not easily apply back in the office, but often providers lack the budget to create real-life simulations” (p. 296).

Fenwick (2000) identified three key factors affecting educators practising at the interface of work and learning. The first is that workers struggle to find personal meaning in work and she linked this to issues of “identity related to work and the human quest to understand and unfold the self” (Fenwick, 2000, p. 297). The second is the educators’ struggle to help people learn what they need to be successful on the job, in relevant and authentic ways. The third tension is the educators’ struggle with conflict or resistance among workers and managers. Through extensive research in the field of work and learning, her own personal experiences and in drawing on the work of Giddens (1991), Fenwick (2000) made important suggestions for educators working in the field of

work and learning which should inform the pedagogy used. Initially she suggested that, “inquiry and practice in worker developments must listen closely to the complexities of individual human lives and the identities being worked out through people’s joint experiences in work activity and communities” (p. 300). She added that education should help learner-practitioners to “come to know and value their self’s dilemmas as elegant problems to be worked through”. This can be achieved, she claimed, through exploring the “slips, and discontinuities and overcome the ego’s resistances to learn from them” (Fenwick, 2000, p. 300).

Additionally, Fenwick (2000) suggested that educators of work and learning explore perspectives on “situated learning and development”. Some work and learning programmes assume that learning acquired in one situation can be transferred readily into other situations. However, in reading Jarvis (1984), I observed that he highlighted that learning does not occur in isolation but is “rooted in the situations in which a person participates” and that “knowing is a process of participation in interactions with systems” (p. 301). Fenwick (2000) elaborated that “what is learned in one situation is not portable but is transformed and reinvented when applied to the tasks, interactions and community dynamics of another”. Wilson (1993), as quoted in Fenwick, 2000, p. 301) suggests that “people do not learn from experience, but learn in it”. A strong argument from differently situated views emerges, highlighting that learning, activity and context cannot be separated. The suggestion to educators of work and learning is thus to help people “participate meaningfully in the practices they chose to enter” (Lave & Wenger, 1991 as quoted in Fenwick, 2000). The purpose is to achieve improved participation in order that participants pay attention to characteristics, properties, interactions and relations in a situation. These may be transformed through interaction with other systems, and applied and re-situated in a meaningful way to similar situations.

The point made by Knowles et al. (2005) that an analysis of the “lived experience” and the grounding of learning in analysing and using “life situations”, is strongly linked to concepts of reflexivity as well and to some of Fenwick’s (2000) recommendations outlined above. Mezirow (1991), in Knowles et al. (2005), indicates that the purpose of teaching/learning should seek to help adult learners transform their way of thinking about themselves and their world and he called it “perspective transformation”. Brookfield (1986, in Knowles, 2005) argues that this could be achieved through developing competencies in “critical reflectivity”. However, it is also important to note that Brookfield (1986, in Knowles, 2005) also stated that this could not be achieved immediately and through stating the objectives upfront. Rather, personal learning is deeply embedded in individuals questioning their assumptions, how they see themselves and their world and re-imagining themselves and their practices as they look at past and current behaviours through new lenses.

Billet (2004a) commented that learning for workplaces is learning that happens through *engaging in* work. It is the day-to-day learning that takes place from learners' daily experiences at work. The idea that learner-practitioners learn and construct knowledge and develop their skills base through engaging in solving problems on a daily basis means that a pedagogy of learning should incorporate workplaces as learning sites. This implies that participation (at work and with colleagues), observation and problem solving should be critical aspects of a pedagogy involving individuals' learning for work.

Billet (1994) made reference to the Zone of Proximal Development (ZPD) as conceptualised by Vygotsky (1978) which he considered significant because it highlights the relationship between an expert and a novice. Observing and working with someone with more experience may contribute to learning which is taken further through input from the expert. Vygotsky (1978) defined the ZPD as the "distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86).

Jerome Bruner explored the implications of support by a more competent other and developed the metaphor of the "scaffold". The scaffold has been used to describe the "process that enables the novice to solve a problem, carry out a task or achieve a goal which would be beyond their unassisted efforts" (Wood, Bruner, & Ross, 1976, p. 90). Some pedagogical aspects of 'scaffolding' learners towards the ZPD involve: "modelling, questioning, explanation" of the tasks and "dialogue" (Cheyne & Tarulli, 2005, pp. 133-134). The concept of the ZPD and scaffolding has significance because both concepts can lead to different models of pedagogy within the workplace e.g. mentoring and coaching.

A final suggestion by Fenwick (2000) to educators working in the field of work and learning is to ensure there is a proper "understanding of the beliefs competing in workplace culture and to analyse how some ideologies mobilise sentiment, affection and belief to induce consent for certain dominant assumptions about work life and values" (p. 303). Understanding the dominant workplace culture, structures and social relationships would provide useful insights into the "contradictions, identity struggles and patterns of dominance which threaten workers' dignity" (Fenwick, 2000, p. 303).

2.5.2 Relevance of Work-Integrated Learning and Adult Learning to this study

So far in this chapter, discussions on adult learning and learning at work have presented rich

suggestions for course pedagogy. All the arguments acknowledge the critical importance of lived experience, situated learning through meaningful participation, understanding the self and identity, the system of activity (for example, the workplace) and also the importance of critical reflection. The various authors acknowledge that learner-practitioners emerge from a deeply embedded cultural-historical-social identity and this heterogeneity should be the basis of understanding when designing pedagogy to support workplace or work-integrated learning. This identity is further shaped by learner-practitioners' lived experiences and provides a context of learning that is deeply embedded in real situations. This review of work-integrated learning has revealed some key elements of workplace learning, as well as its significance and shared ideas on how such processes can be strengthened. These suggestions are now further explored from the social learning vantage point to help understand and reveal other elements of pedagogy which support the understanding of work and learning.

2.6 Social Learning for Socio-ecological Sustainability

Examples of research in workplace learning that focuses on environment-oriented learning and socio-ecological sustainability are very limited – see, for example, Hamaamba (2005) and Olvitt (2012). According to Fenwick (2006), individuals and organisations have primarily focused on the job and how to do that better and how to keep up with the changing knowledge.

The Foresight Report (United Nations Environment Programme [UNEP], 2012) has recently identified 21 emerging issues in the world and noted that human actions are “challenging the earth systems” and the “boundaries of the planet”, thereby creating a system that is very different from what we have known. It calls for a fundamental shift in perspectives and world views as well as a new paradigm to guide action. It calls for reconnecting human development and progress to the carrying capacity of the earth system to sustain our own development. Situated at the heart of this discourse is the critical and fundamental role of how we think and interact about these emerging issues. There is a need for a more holistic approach amongst all spheres of influence (UNEP, 2012, p.13). There is a need to understand new and emerging knowledge and develop a “new global ethic ... which espouses attitudes and behaviour for individuals and societies which are consonant with humanity's place within the biosphere” (Wals, 2007 p. 35).

Every person is an integral part of the environment. Education processes are contributing towards the development of the “citizens of the world” (Nussbaum, 1997, p.8) who have to cope with the “surprise dilemma” (Lotz-Sisitka, 2010) associated with pushing the boundaries of the earth's social-ecological systems. We are going to require new kinds of thinking and “capabilities” to be able to respond in meaningful ways. Ideas of what “citizens of the world” should know and be

have been examined by Martha Nussbaum (1997) who talked about “cultivating humanity” p.9, with people having a strong sense of responsibility for everything and everyone around them. Every citizen of the world is confronted by socio-ecological challenges that require them to act in particular ways and to show responsibility to the environment and others.

Wals (2007) made a similar point to Nussbaum (1997) when he commented that sustainability education “has a role to play in developing a sense of responsibility and solidarity among countries and regions as the foundation for a new international order which will guarantee the conservation and improvement of the environment” (p. 36). Both Wals and Nussbaum have identified a sense of responsibility as a key factor, although Nussbaum (1997) refers to individual responsibility within a bigger social process, whilst Wals (2007) appears to be referring to a more collective responsibility in terms of countries and regions.

Nussbaum (1997) and Wals (2007) both alluded to the concept of responsibility for the environment, for our actions and for the way we interact with each other. If responsibility has been the goal of education and environmental education for many years, then why have we not adequately achieved the goals? One of the arguments presented by Wals (2007, p. 37) is that the routine “problem solving approaches are not adequately achieving a more sustainable world” and that we require a more “systemic and reflexive way of thinking and acting”. He added that people’s capabilities for making their own choices and “developing the possibilities to act and take responsibility for their actions varies tremendously”. Glasser (2007, p. 45) provided a useful lens on this discussion when he highlights the need to “better understand our existing values, reprioritising or realigning our values in relation to this improved understanding, and eliciting greater consistency in their application”. Greater reflexivity in terms of understanding what we do and why we do it is an implication of Glasser's (2007) comment.

All three researchers (Wals, Nussbaum and Glasser) made reference to the critical role of learning in the process of “cultivating humanity” and creating “citizens of the world” (Nussbaum, 1997) and a new global ethic. As Glasser (2007, p. 47) noted: it is “only through learning that we acquire our values, attitudes and concerns along with our conception of reality”. But Nussbaum (1997) explored learning as more than simply reasoning. She saw learning as part of becoming a “human being capable of love and imagination who appreciates and can be responsible for others and the world” p.14, not as something focused on a narrow local setting.

Wals (2007) and Glasser (2007) both motivated for social learning as a way of addressing the socio-ecological sustainability challenges of the 21st century. Wals (2007, p.39) described social learning as:

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

Glasser (2007, p. 49) viewed social learning as “any learning by individuals or collectives, which involves some form of input drawn from others”. Both the Glasser and Wals definitions show that social learning could be collective or individual. However, Glasser (2007) also distinguished between ‘active social learning’ and ‘passive social learning’. Passive social learning is viewed as learning that is gained from either observing others or from a form of communication tool e.g. reading a newspaper. Passive learning is viewed as having a limited ability to generate innovations (Glasser, 2007). In passive learning processes people would use “modelling, self-instruction, conversations and mentoring as some of the strategies” (Glasser, 2007, p. 48).

Active social learning is seen to be embedded in dialogue. Co-learning, learning by doing and accountability are fundamental aspects of this type of social learning. Learning takes place through the conversations of which people are part and can result in “creative innovations” (Glasser, 2007, p. 49). Active social learning is seen to be able to support “multiple loop learning” which helps individuals to bring their values to the surface and understand them in more depth (Argyris & Schon, 1996, cited in Glasser, p. 52).

A key aspect of both Wals’ and Glasser’s perspectives is captured in Wals’ question: “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 thinking and learning” (Wals, 2007, p. 39). This is the heart of the discussion that will follow that explores the relationship between Amartya Sen’s capabilities approach and social learning and considers how this interaction might guide course pedagogy.

This section’s discussion on social learning has explored the proposition of social learning for socio-ecological sustainability. A more detailed discussion will follow in the subsequent sections that will consider synergies between the capabilities approach and the social learning processes. However, I will first clarify the concept of capabilities as used in this study and consider its significance.

2.7. Capabilities for Socio-ecological Sustainability

The work by Amartya Sen has only recently been explored in relation to education; in the arena of

work-integrated learning it is a relatively new and emerging focus. In this study, therefore, I have concentrated only on key concepts from the capability approach and considered its implications for education. Significantly, Sen (1992) suggested that his approach was fairly open-ended and would be given meaning through particular circumstances in which it would be used. He noted that the capability approach should be read in conjunction with theories on participation, democracy and social justice and education. As discussed by O'Donoghue (2014), the concept of Education for Sustainable Development and socio-ecological sustainability in a South African perspective has a strong "focus on more sustainable planetary stewardship for a forthcoming focus on global citizenship education" (p. 8). As such, the concept of capabilities, which is essentially a theory of human development and justice, has relevance to this study. Nussbaum (1997), in her discussions on cultivating humanity, alluded to the critical role of education in developing the person and society. Cultivating the human mind and spirit is critical in discourses on environmental and social responsibility. The following preliminary discussion foregrounds the concept of capability.

According to Sen (1992), a "capability" is what people are actually "free to be and do" p.39, rather than how much income they have. Functionings are the "beings and doings" of a person, whereas a person's capability is: "the various combinations of functionings that a person can achieve. Capability is thus a set of vectors of functionings, reflecting the person's freedom to lead one type of life or another" (Sen, 1992, p. 49).

A functioning is an achievement, whereas a capability is the *ability* to achieve (Sen, 1987). Understanding the workplace practices of the participants and investigating the "functionings" (Sen, 2002) that they value and that are meaningful to them would provide insight into the capabilities relevant to the EETDP course and its pedagogies. It is important to note that the emphasis is not only on how people actually function, but on their having the capability, which is the practical choice, to function in important ways if they so wish. When exploring the issue of functioning from a human capital development perspective it is important to note that it is referring to education as a 'means to an end' and the economic value of education is emphasised. However, considering functioning from a capability perspective provides a different focus that views education more as a process. Walker and Unterhalter (2007) noted that the human development and capability approach sees education as fulfilling three key roles, namely instrumental, empowering and redistributive. The instrumental role involves basic literacy to help people to engage in conversations and debates about societal arrangements. People also begin to expand what they know and can do and therefore this is an instrumental process role. "Finally, it has an empowering and distributive role in facilitating the ability of the disadvantaged, marginalised, and excluded to organise politically" (Walker and Unterhalter, 2007, p.8.)

Sen (2002) referred to five types of freedom, namely political freedom, economic freedom, social opportunities freedom, transparency guarantees and protective security. These freedoms help to advance the capability of a person and hence the ability of people to help themselves. Sen's concept of freedom should be viewed in relation to participation and democracy which focuses on 'beings' and 'doings', especially valued beings and doings. Education is seen as a process of creating opportunities for being and becoming in the future. Pedagogy should enhance opportunities to foster critical and deliberative learning, a point noted by Walker (2006). Walker and Unterhalter (2007) also argued that a key role of education is to help the development of confidence and motivation and to encourage knowledge and understanding so that people have greater opportunities to achieve (p. 8). The National Diploma in EETDP has a significant role to support the development of confidence, motivation and the acquisition of knowledge and understanding on environmental and sustainability content so that learner practitioners can achieve valuable "functionings".

The concept of freedom in the capability approach is central to discussions on people choosing a life that they have reason to value. Capabilities tend to focus more on the opportunities that people have to do something that is meaningful to them. These ideas are important because they have implications for the type and purpose of education and ways that education can foster participatory, democratic and deliberative ideas that promote dignity, self-respect and agency (the will to act) to convert the resources one has into capabilities. In this study, I explore the EETDP course pedagogy and the lived experiences of two course participants through the lens of these key ideas and look at what they have found meaningful from the National Diploma in EETDP and if it has influenced them in any way when opportunities have arisen.

The concept of capabilities links strongly with choice and is deeply embedded in a values-based discourse. This can be observed in Sen's comment: "In assessing our lives we have reason to be interested not only in the kind of lives we manage to lead, but also in the freedom that we actually have to choose between different styles and ways of living" (2009: 227). The concept of people being able to choose between different kinds of lifestyles is closely linked to the concept of environmental responsibility and the things people see as important to them. Walker (2006, p. 335) highlighted that it is about "what do I as a human being become as a consequence of what I experience in learning about human development?"

Recent international environmental summits, for example Rio+20, have recognised the multiple challenges we face in the sustainable development agenda. Challenges of poverty, unequal development, social injustices, disease, unemployment and resource consumption and degradation have been recognised as some of the basic issues we are facing. In the document *Green Economies*

to *Green Societies* (UNESCO, 2012, p.5), there is a recognition that “education is about values. It crafts new ways to understand the world and to act” and suggests that sustainable development should enable and enhance attitudes and behaviours necessary for a new culture of sustainability. All these discussions still ultimately refer to the choices that individuals and collectives will eventually make around their lifestyles, development and patterns of consumption.

Key questions that emerge from these discussions are: What enables people to have the freedom or opportunity to make choices about their lifestyles so that they can become more sustainable? In what ways might education help foster this ethic? Therefore, as I work on courses for adults located in environment-oriented workplaces, I ask: What are the implications for pedagogical decisions amidst the changing skills landscape? In the next section, I explore pedagogical possibilities at the interface of social learning and capabilities development. I will draw on three key researchers, namely Nussbaum, Walker and Unterhalter, because they have utilised the capabilities perspective extensively in their educational research.

2.8 Pedagogies associated and implied through Social Learning and Capabilities Development

In this study, pedagogy has been understood as the method of teaching that considers people’s contextual realities and lived experiences. That is, it extends beyond the role of the lecturer or teacher. It involves who is teaching, who is being taught and the contextual conditions in which the teaching and learning occurs. Walker (2009, p. 334) suggests the importance of not separating “what is being taught from the way it is taught. Who is teaching and who is being taught and how they are being taught matter as much as what is being taught.” In developing my understanding of pedagogy, I have also considered Alexander’s (2008) perspective that pedagogy is not only about teaching techniques. It is seen as a purposive cultural involvement in human development that is deeply saturated with the values and history of the society and community in which it is located. Pedagogy is the act of teaching together with the ideas, values and collective histories that inform, shape and explain the act. Working with this understanding of pedagogy requires revealing socio-cultural and historical values of course participants, and the communities in which they locate themselves, as well as the socio-cultural and historical context from which the course has emerged.

The capabilities approach tries to understand how people have come to be and do things in the world and there is a strong emphasis on meaning and context. The concept of diversities and heterogeneities emerges from Sen’s (1992) work and also has implications for education.

Heterogeneity refers to the idea that people are individuals and they have particular contexts from which they come. These contexts are diverse and therefore people come to learning situations with different social capital. Five types of heterogeneities have been noted: personal, environmental

diversities, variations in social climate, differences in relational perspectives and distribution within the family (Sen, 1992). The social climate of the learning moment and the pedagogies used may influence a learner's ability to transform a capability into a functioning. Walker and Unterhalter (2007) argue that people need social arrangements that are sensitive to how they are able to express themselves and give them opportunities for expression; an example is if someone values having a voice as an important capability. This has implications for particular forms of classroom pedagogy, management, resources and an understanding of learners' differences and needs.

Wals (2007, p. 9) similarly noted that, in pursuing sustainable living, people emerge and come to learning situations with different "norms, values, interests and constructions of reality". There is general acknowledgement that the concept and goal of sustainability is contested, complex and contextual. As part of a sustainability-oriented learning process, understanding and revealing the norms, values, interests and realities through a deconstruction process helps people to understand their frames and how they have come to their lived reality. The concept of a frame is explained as "principles of organisation which govern events, at least social ones, and our subjective involvement in them" (Goffman, 1974, cited in Wals, 2007, p. 11). Wals believed that people's framing of an environmental challenge initially influences their problem solving abilities. He added: "Recognising one's own frames requires the skill of reflection, introspection and expression" and an understanding that the frames are not static but will change and shift when needed (Wals, 2007).

Fenwick (2000, p. 300) has explored how the frames link to work and how this links to pedagogy in adult education; she noted that it is important to "listen to the identities being worked out through people's joint experiences in work activity and communities". She suggested that education should help people to "come to know and value their self's dilemmas as elegant problems to be worked through". Knowles et al. (2005) also mentioned that workers and adults require critical reflection to help them to come to understand their identities. It is emerging from the above discussion that it is important to engage in processes of critical reflection to understand the frames currently held. The processes of understanding and "untangling relationships, and becoming aware of one's own hidden assumptions, ideologies and insights" is referred to by Wals (2007) as 'de-framing'.

A key aspect of de-framing, according to Wals (2007), is the relationships that people are part of and the dialogue and conversations they engage in. Being participants in shared conversations and dialogue would help to surface "construed meaning". The basis for de-framing and the start of dialogue are "prior perceptions and sense making" Wals (2007, p. 16). Additionally McKenzie (2009, p. 220) highlighted that it is: "relationships with others who tell us 'truth', that cause us to encounter strangeness... In relationships to the socio-ecological, I am called to consider that the

power of the subject in this context lies in creating affections and relationships”. She further highlighted that as we work in areas at the edge of our comfort zones and experience instances of discomfort, we will learn and be able to imagine new possibilities. From these discussions it becomes evident that in order to deconstruct our understanding, it is important to engage in critical dialogue with others and that the richness of the learning lies in the interactions amongst the people and the situation in which it happens. It is through such interactions that new ‘capabilities’ are developed and individuals have the opportunities to practice their ‘freedom’ to achieve new ‘functionings’ because, as Walker (2007) stated, “How do we know that our students have valuable capabilities unless they are given opportunities to function and use these capabilities in educational situations?” (p. 29).

Wals also argued that through the process of de-framing and deconstructing the frames, it is possible and important to reframe new practices and understandings. Wals considered “frame awareness, frame deconstruction and reframing” as important aspects in transformative social learning processes (2007). Reframing supports new practices and shared and acceptable solutions to different situations (Wals, 2007). He suggested that in moving towards processes of reframing, some key drivers are identified. Wals (2007, p. 19) added that “emancipatory and instrumental processes of change are needed” as well as expert knowledge and local contextual knowledge for more sustainable solutions. Reframing depends on how much discomfort people experience in their comfort zones and how they managed the different perspectives presented by differing views. But this, maintained Wals (2007), is necessary if sustainable living is to be achieved.

In navigating Wals’ (2007) arguments, I often found myself turning to work by Walker (2010) as a way of making connections to the capabilities approach. So whilst Wals (2007, p. 19) referred to “emancipatory and instrumental processes of change”, Walker (2010, p. 335), drawing on capabilities and Freirian pedagogy, argued that “emancipation becomes the process of finding one’s own voice”. Questions, debates and discussions are critical for the dialogue. When learners start to ask questions, not just answer them, and education becomes something that learners do and is not just done to them, it is evident that a critical mode of being is emerging (Walker, 2010). Walker (2010) noted that the “critical mode of being is the key to pedagogical practice” (p. 335) and proposed three key features of pedagogy that resonate with Wals’s concerns. She stated: “learners should be active participants and co-constructors of knowledge, that learning should be meaningful to the learners and that learning should have a critical focus”. She considered engagement in “critical dialogue ... and reflectively constructing and reconstructing the social world” as central aspects of pedagogy (Walker, 2010, p. 336).

In a social learning framework, the role of the facilitator is to mediate learning rather than to teach.

Glasser (2007) further identified the critical role of modelling in learning. This would therefore imply that the facilitator should be able to model appropriate behaviour from which the learner could learn. Walker (2007) noted that facilitators become critical and reflective individuals who are always engaged in questioning phenomena. She added that the facilitator should be open-minded, prepared to learn from learners and others in the field, and should support learners to develop “democratic and critical and compassionate ways of thinking” (Walker, 2007, p. 337). Wals (2007) also noted that a facilitator of learning should be aware of their own constructions of learning (so as not to bias the processes of learning), be flexible and gain the trust of learners.

According to Walker and Unterhalter (2007), agency as understood in the capabilities approach helps people shape their own life according to what matters to them as responsible human beings and the goals are reached through the person being involved in reasoned reflection. Sen (1999) noted that social change can take place if people use their agency because it helps people imagine new ways of being as they engage in critical reflection. Education is viewed by Sen (1999) and Walker and Unterhalter (2007) as an important capability in fostering agency and helping people to engage in collective action and democratic participation.

UNESCO's *Education for Sustainable Development: Expert Review of Teaching and Learning* (2011) outlined some fundamental aspects of teaching methods. According to Cotton and Winter (2010) as quoted in UNESCO's review, there is a strong emphasis on active learning processes in the Decade of Education Sustainable Development discourse. Some active learning processes focus on the following pedagogical strategies: role plays and simulations, group discussions, stimulus activities, debates, critical incidents, case studies, reflexive accounts, critical reading and writing, problem-based learning, fieldwork and outdoor learning and modelling of good practice. It is important to note that the list of methods as identified by Cotton and Winter (2010) as reflected in the UNESCO Review is not exhaustive. Other methods e.g. storytelling, acting and performance-related techniques (e.g. music, dance painting), real life projects and action research are also critical. Although many of these methods can be utilised in a social learning context, it should be underpinned by aspects of critical dialogue and reflexive practices to enhance the learning opportunities between the actual learning event and the process of learning in the learning context.

2.9 Critiques of the Social Learning and Capabilities Framework

A key critique that has emerged from the literature around the concept of deliberative process can be found in an article by Cundill and Rodela (2013). They noted that the assumption that social learning is triggered by deliberation does not take into account people's individual abilities and that not everyone may be able to participate in a deliberative process equally well. Factors like level of literacy, power relations, constraints on time and attendance could affect a social learning process.

A further point to note is that social learning processes may not necessarily lead to a “shared understanding” or consensus. This critique can be traced back to the critiques of Habermas’ theory of communicative action.

The work by O’Donoghue (2014) has significance at this point as he noted that processes of “reflexive critical deliberation (higher-order skills)” (p. 21) are supported by working with concepts and enabling people to acquire the knowledge required for living in a changing world and for the common good through situated learning and participation which will result in meaningful learning.

A key critique from Ballet, Dubois and Mahieu (2007) of the capability approach is that it currently does not adequately incorporate ideas of personal responsibility⁶ and collective capability⁷ into the capability approach and the idea of agency⁸ is considered weak. If the concepts of personal responsibility and collective capability are incorporated it will make it possible to address issues pertaining to the social component of sustainable human development, and to build the conditions for socially sustainable development (Ballet et al., 2007). Issues of sustainable development require personal and social solutions because they are made up of people’s individual but also collective actions which affect the environment. Pedagogically we are teaching individuals on how to take personal responsibility and to mobilise for collective action to have a real impact on solving issues linked to sustainable development. Martha Nussbaum (1997) noted that we are “citizens of the world”. But we are also citizens of a country, region and a community.

2.10 Conclusion

This chapter started with mapping out the context of this study and reviewed the NQF, associated principles and SAQA landscape. It has presented a critical discussion on exploring the nature of pedagogies for socio-ecological sustainability, highlighting the importance of work-integrated learning in the National Diploma in EETDP and various pedagogies were scoped. Social learning was critically considered in the light of the capability approach and the chapter concluded by providing a critique of the social learning and capability approach. Exploring the links between work integrated learning, social learning and capabilities highlights the interconnectedness between the three levels. The social learning and capabilities discourse are proposing the need for learning to be a participatory, democratic process enabling people to engage in critical dialogue and critical

⁶ Personal responsibility: “capability for a person to feel and be responsible; that is, voluntary self-constraint in order to satisfy obligations towards others”

⁷ Collective capability: “the set of actual and potential resources that are related to the possession of a durable network of more or less institutionalised relations of inter-knowledge and inter-recognition ... ” (Bourdieu, 1980, as quoted in Ballot et al., 2007).

⁸ Agency: according to the capability approach, agency is seen as the individual’s freedom to act in pursuit of goals other than self-interest (Sen, 1985, as quoted in Ballot et al., 2007).

reflection.

There is a body of knowledge that is suggesting that workplaces are not naturally reflective environments and that the reflective processes can sometimes disrupt the work environment (Walsh, 2009). Understanding the workplace practices of the participants and investigating the “functionings” (Sen, 2002) that they value and that are meaningful to them would provide insight into the capabilities relevant to the EETDP course and its pedagogies. It is important to note that the emphasis is not only on how human beings actually function, but on their having the capability and opportunities, which is the practical choice, to function in important ways if they so wish. The following chapter will highlight the methodological approach used in this study and also foreground the design, the data collection process and the data analysis process.

CHAPTER 3: RESEARCH METHODOLOGY AND METHODS

3.1. Introduction

Hitchcock and Hughes (1995, p. 21) suggested that “ontological assumptions give rise to epistemological assumptions; these in turn give rise to methodological considerations; and these, in turn give rise to issues of instrumentation and data collection.” I have used this quote as a basis for the chapter because the purpose of this research study is to understand the course pedagogy and its framing by the course participants in their practice. Understanding of the realities of the course, course participants and their context is a central feature of the research.

This chapter carefully presents how I undertook this research and investigated the research questions; the goals, and the decisions that I made regarding the research methods used; the data gathered and the analysis of the data. “Narrative enquiry is set in human stories of experience providing researchers with a framework to investigate human experiences of the world depicted through their stories” (Webster & Mertova, 2007, p. 1). It helps to capture the richness of experience in teaching and learning. Underpinning this research are the experiences of the course participants.

Firstly, this chapter explores the research methodology, providing justification for a case study approach. Thereafter, a detailed discussion follows of each of the research methods used with a strong theoretical focus. The second part of this chapter carefully explains the process of data gathering, data management and data analysis in the context of this research.

3.2. Research Methodology and Methods

3.2.1. Research Orientation

As discussed in Chapter 2, this research is grounded within the theoretical perspectives of the capability approach (Sen, 2002) and the concepts of transformative learning as part of social learning (Wals & Heymann 2004, Wals 2007) both of which are grounded in critical theory and in the work by Paulo Freire (1996). Understanding how people frame their practices and illuminating learning processes that help them reframe their practices is the underlying basis of this study.

The research involves an in-depth study of understanding the course participants and focuses on emerging meaning for participants from the course pedagogy. In the interpretive paradigm (Janse van Rensburg, 2001) there is an assumption that meaning is constructed by individuals and groups, in interaction with each other and through language. The interpretive paradigm notes that reality as

we know it is constructed intersubjectively as we develop meaning and understanding through social interactions and experiences and that we cannot separate ourselves from what we know. The assumptions are that the object of the investigation and the researcher's values are inherent in the research and that the truth is negotiated through dialogue (Janse van Rensburg, 2001). The dialectic conversations help to support the data collection. The interpretive paradigm influences the types of methods that would be used namely qualitative approaches focused on interviews, observations and analysis of texts which enable meaning to be created.

Drawing from the interpretive paradigm in this research there is an emphasis on contextual meaning that happens in naturalistic settings (workplace and the course). Therefore instead of focusing on large groups, I have focused on specific individuals and conducted an in-depth case study in the interpretive research tradition. The interpretive framework looks for rich, detailed information of a qualitative nature through in-depth interviews, observations and interpretation of documents (Janse van Rensburg, 2001). A case study approach has been used to help provide rich qualitative data.

3.2.2 Case Study Approach

Case study research, although contested in its inability to transform practice as noted by Corcoran and Wals (2004) as well as Walker (2006), still contributes towards a significant emphasis on learning from practice. It helped me find the position from which to view this study. It has informed the position of looking from the inside out. Despite significant criticisms levelled against the methodologies used in social science research (May, 2001), it is significant to note that in such research we deal with people. Therefore it is important to catch the close-up reality and 'thick descriptions' of participants' lived experiences, thoughts, and feelings within particular situations, as mentioned by Geertz (1973).

In this study the multiple case study design was used to produce detailed descriptions of the individuals, their organisations and workplaces, the course and their workplace practices. Yin (1994) emphasised that multiple cases strengthen the results by increasing the robustness of the findings because if it was a single case study then it would be equivalent to a single experiment and difficult to collaborate. External validation to the findings through the two case studies would help with analytical generalisations. The more cases that can be used to establish or refute an idea, the more robust are the research outcomes. Each case served to confirm or disconfirm the conclusions drawn from the other. Cases need to be carefully selected so that they either complement each other or will contrast each other and provide rich thick descriptions.

Yin (2009) highlighted three principles of data collection, namely:

- Use multiple sources of evidence: Using multiple sources of evidence is to ensure triangulation. Case study research enables the use of multiple methods and it is vitally important to do this within the case study, primarily to ensure validity and rigour in the data collected. According to Yin (2009) using multiple sources of evidence enables converging lines of inquiry.
- Create a case study database: This relates to maintaining a formal database with case study notes and case study documents and not simply the case study reports. According to Yin (2009) this will enhance access for other researchers.
- Maintain a chain of evidence: The idea is to allow an external observer to follow the evidence from initial research questions to ultimate case-study conclusions. This increases the reliability of the information in case study.

As indicated in Chapter 1, this research study focused on the National Diploma in EETDP which is being offered by DEC. The choice of the case study was relevant to my field of work and to my practice. Emerging from an understanding that people are at the heart of the research, I decided to focus on narrative case study (i.e. descriptive accounts). Yin (1984) classified three types of case studies, namely descriptive, interpretive and evaluative. The type of descriptive research used in this case study led to the careful selection of research methods.

The boundaries of the case in this study were environmental education and training practitioners and individuals completing the course. The study involved a focus on two learner-practitioners, one from a provincial department of agriculture and rural development and the other from a metropolitan municipality. These sites were selected because the learners were completing the National Diploma in EETDP and they were accessible to me.

The next section (section 3.3.) explores the research methods carefully and provides justification for decisions on the research tools used. In section 3.4, I provide further detail on how I used these methods within this study and within the study design.

3.3 Research Methods

In this research study, I have focused on three interpretive methods that have allowed me the opportunity to probe the experiences of the environmental education practitioners in the EETDP programme. According to Yin (2009), there are six sources of evidence that can be used in case study research. These are documentation, archival records, interviews, direct observations, participant observations and physical artefacts.

Semi-structured interviews, observations and document analysis have provided opportunities for

me to capture the stories of the individuals on the EETDP course. In this section I provide insight into the research methods used and their relevance to this study.

3.3.1 Observations

A motivation for conducting observations can be found in the literature by Cohen, Manion and Morrison (2004) who note that through observations we capture the verbal and the non-verbal communication aspects which reveal significant bits of information relating to the ontological aspects of human nature.

According to Cohen, Manion & Morrison (2000), observations enable the researcher to gather data on the physical settings, the interactional setting and the programme setting (i.e. the resources and their organisation, pedagogic styles, curricula and their organisation). In this research I was focusing on pedagogy used within the course, therefore it was necessary to observe the pedagogic processes used. As suggested by Patton (1990. p. 202), observation enables the researcher to enter and understand the situation that is being described. The observation is unstructured and requires thorough analysis prior to any explanations being provided for a particular phenomenon observed.

Conducting observations of the course participants' workplace practices, although time consuming, was valuable in capturing emerging relationships between the course and workplace, which may have not been noted otherwise. Yin (2009) distinguished between direct observations and participant observations. According to him, the strength of direct observation is that it covers events in real time and is contextual in that it covers the context of the case. However, he noted that a key weakness of this type of observation is that it is time-consuming; the event may proceed differently because it is being observed; and, it is costly due to the amount of time required.

Understanding the constraints of observations required careful planning and negotiation prior to my own observations. To add to my observations, I involved the participants as observers of their own practice by having them capture their practice in a series of photographs taken on their cell phones.

Participant observation was conducted providing insight into interpersonal behaviour and motives for actions. The researcher as a participant-observer primarily focused on the aspects relating to the course because the researcher was also one of the facilitators on the course. However Yin (2009) suggested that a key weakness is that it can be biased due to the participant-observer's manipulation of events. As a participant-observer therefore, it was necessary to be aware of the potential ethical and validity issues and to plan accordingly. The discussion on validity and the ethical considerations is covered under the section on validity and ethics (see sections 3.7 and 3.8 below).

Direct observation was used to capture formal and casual data of the course and the workplace (Yin, 2009). It involved the observation of meetings in the workplace, observation of participants at work and at formally organised events by the participants. Less formal direct observations were made through field visits to the workplace. The condition of buildings and the arrangement of work spaces reveal important information about the climate within an organisation. Similarly the location or the furnishings of an interviewee's office may be an indicator of the status of the interviewee within an organisation (Yin, 2009). Observational evidence has also been useful in providing additional information about the topic being studied. Photographs taken during these observations, for which prior permission was sought, have helped to convey important case characteristics to outside observers (Dabbs, 1982).

Participant-observation is a special mode of observation in which the researcher is not merely a passive observer (Yin, 2009). Instead I assumed different roles in the case study situation and actually participated in some aspects of the events being studied. Participant-observation provides certain unusual opportunities for collecting case study data. It affords an ideal opportunity to access the events or groups that may otherwise be difficult to access. A further advantage is the opportunity to perceive reality from the viewpoint of someone inside the case study rather than external to it.

Some negative issues, however, related to participant observation have to do with potential bias (Yin, 2009). The role of the participant may also become compromised owing to a familiar role being followed. Participation in the situation may also require too much attention relative to the observer role (Yin, 2009). In the research, the roles I have assumed to some extent have been of a participant-observer relating to the course that was being studied. Therefore I needed to have strong triangulation processes to deal with any potential bias that may have arisen. A critical friend and multiple methods of research have been used to gather the data and to ensure rigour, and reflexivity.

3.3.2 Unstructured Focus Group Interviews and Individual Semi-structured Interviews

Interviews provide an opportunity to start a conversation with a group of people on a specific topic as noted by May (2001). With a strong emphasis on trying to understand the course participants, it was necessary to utilise an unstructured group interview. This allowed the emergence of rich insights into people's biographies, experiences, opinions, values, aspirations, attitudes and feelings. A further motivation for selecting this method of interviewing was to enable participants to answer freely without feeling constrained by pre-formulated questions (May, 2001).

The unstructured interview process, which according to May (2001) is sometimes called the informal interview method, enables participants to talk according to their frames of reference. This enables the meanings that individuals attribute to events and relationships to be understood on their own terms and can provide a greater understanding of the subject's point of view.

Semi-structured interviews were also used. The kind of interview has specific questions but the interviewer is also free to probe beyond the answers given and to enter into spontaneous dialogue with the interviewee (May, 2001).

3.3.3. Document Analysis

Documents are artefacts that help to understand the context of a case study. Documents can provide insight into particular events and help to deepen understanding of those events. Irwin (2001) stated that working with primary sources of information can help to provide contextual understanding of a phenomenon, while Cohen, Manion and Morrison (2000) noted that documents can be the source of historical and contextual data. According to Prior (2003, p. 2) we should consider documents "in terms of field, frames and networks of action" and that "the status of things as documents depends precisely on the ways which such objects are integrated into fields of action, and documents can only be defined in terms of such fields".

3.3.4. Narratives

I have used a narrative approach to report on and represent data. This method of data collection draws on Bruner's (1998) notion that people live their lives in a storied way and we make sense of it by casting it in narrative. Denzin and Lincoln (2011) noted that narratives provide personal, collaborative and interactive relationships that highlight how human experience is laden with meaning and ethical choices we face as human beings. They further added that storytelling helps to capture some of this richness of meaning within the data.

3.4 Data Generation within my Research Design

As indicated above, I have used four key types of research methods to help generate the data. At the heart of each of these data generation methods, however, are the stories and the narratives that give meaning to the data gathered. To generate these narratives, I needed to probe four different aspects of the participant's experiences during the course process, namely:

- Understanding the research participants;
- Describing the course interaction;
- Understanding the processes on the course and the actual pedagogy; and

- Workplace processes/practices.

Each of these data generation methods required different applications of the research methods mentioned in section 3.3 above. (See Figure 3.1. below).

To guide my process of generating data, I developed a simple diagram to inform my decisions. The diagram below notes the levels at which I have interacted to structure the type of data I needed.

1. Understanding of the research participants Research Tools: Personal context maps Transcribed interviews Source of Data: Interviews – research participants	2. Describing the course and its intention Research Tools: Memos for the Analysis of Documents Source of Data: Interview – course developer	3. Understanding the processes on the course and the actual pedagogy Research Tools: Annotated photographs, semi-structured questions Sources of Data: Annotated photographs Focus group interview – research participants Observations of the course – researcher	4. Workplace processes/practices Research Tools: Annotated photographs, semi-structured questions Sources of Data: Interview – line function manager Workplace observation – researcher Observation – research participant Photographs Interview of participants Documents – POEs
CENTRAL INTEREST: PEDAGOGY OF THE COURSE SUPPORTING WORK-INTEGRATED LEARNING Research tools Interview questions for line function managers and learner-practitioners Observation schedules Annotated photographs of workplace practices Sources of data Interviews with line function managers Workplace observation notes Portfolio of evidence - workplace tasks Interviews with course participants			

Figure 3.1: The stages of data generation

3.4.1. Observations

The observations focused on two key areas, namely the course and the course participants within their workplaces. The observations related to specific modules within a two-year course that ended in March 2011. The three modules that were observed were the development of learning and teaching support materials (LTSMs) (Module 6), the implementation of the environmental learning programme (Module 7) and assessing environmental learning (Module 8). Information on the

previous modules was obtained through the document analysis process.

The purpose of the first observation cycle was to gather information pertaining to the course and took place over five days in February, March and May 2010. In instances where I was the facilitator in the course, the interaction was filmed to be watched later and observation notes were developed from the video. This was done to address validity and reliability issues.

Gathering data on the pedagogy of the course involved observing the participants on the course using a camera. At the end of the contact session, course participants were given a series of 40 photographs and asked to select the ones they thought they would like to talk about. They then completed an A3 flipchart collage (see Figure 3.2) to highlight their experiences during the course. This was followed by an interview.



Figure 3.2: Participant's collage of experiences of Module 6

The second phase of the observation process involved spending time observing course participants in their workplaces. These workplace contexts ranged from the planning and conducting of events and campaigns to completing administrative tasks and meetings.

To be able to gather rich contextual data on the workplace, course participants were asked to take photographs of their practice over a specific period and to narrate their practices. The photographs then provided the context for the interview of their workplace practice. Below is an example of an extract a learner-practitioner recorded of her workplace practice; she provides a photograph (Figure 3.3), and then an explanation of what she was doing (Table 3.1).

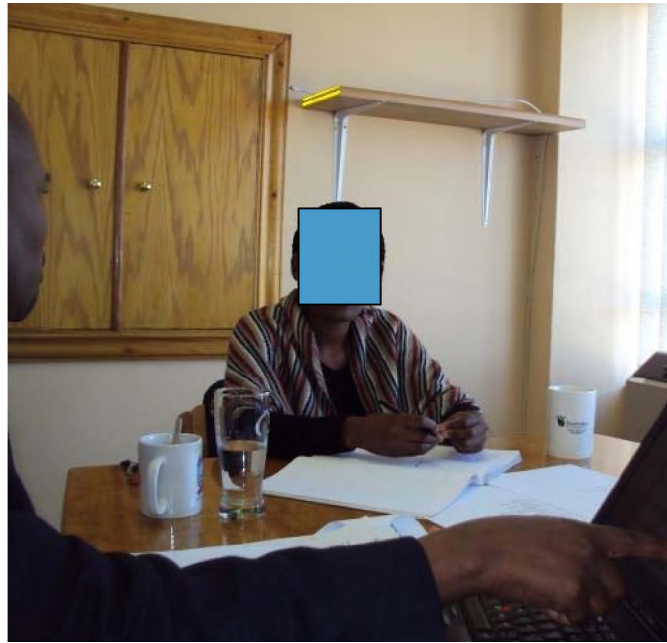


Figure 3.3: A day in the work life of learner-practitioner 2

Table 3.1: Workplace practice observation schedule

What are you doing?	Who are you interacting with?	Key Points of the task/conversation
I am in a sectional meeting and it's about 9h30	I am with my colleagues	Sectional issues and reports on weekly tasks

The research participant negotiated the access for recording of the photograph and gained the necessary permission.

In total I conducted six observations, and used data from both participants' own workplace observations as well.

3.4.2 Interviews

Two levels of interviewing occurred in this research. Participants developed personal contextual

maps to try and capture some of their biographical insights and to identify the socio-ecological risks they encounter in their work and community contexts. An individual interview process was used to elaborate on the key ideas that had emerged from their personal context maps. The contextual maps were used to understand who the course participants were, their socio-cultural contexts and their life stories. An example is provided below of a contextual map and the accompanying questions used – see Figure 3.4.

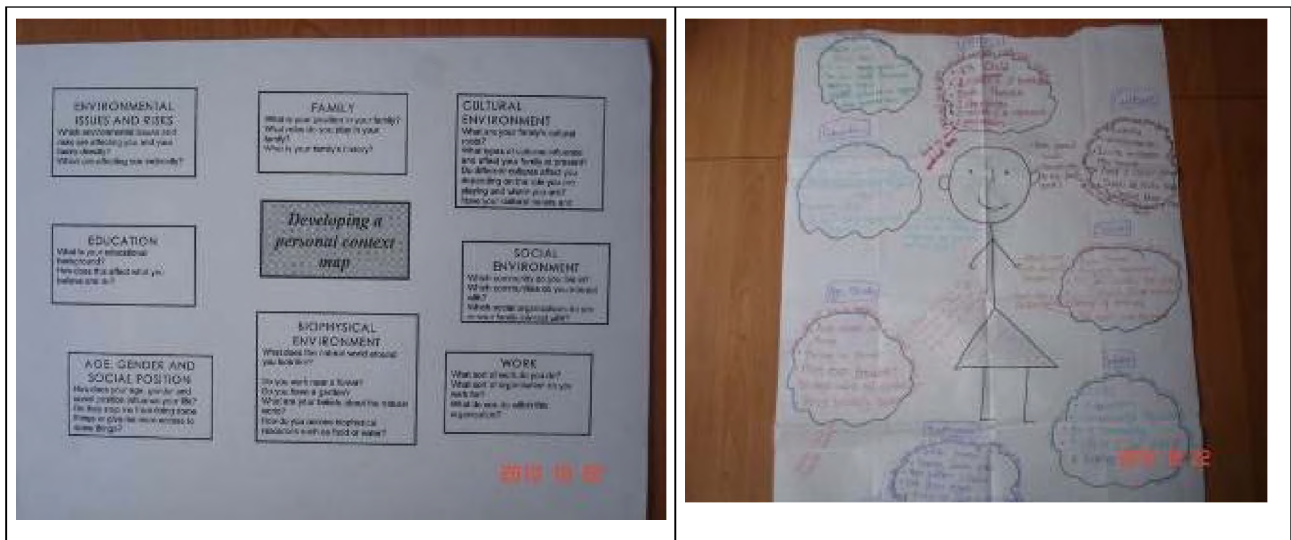


Figure 3.4: Contextual map

A second level of interviews was conducted with the course participants. The basis for the interviews emerged from a process that participants had completed prior to the interview process during the course. During this part they chose photographs which reflected the process that they had engaged in during the course of the week. They each developed a collage and narrated these collages to provide insight into the methodology that they felt was helping them to learn. The second level of interviewing occurred as a group interview and was semi-structured. Participants were given a set of questions to think through to help support the conversations in which they would be engaged. The group interview was taped and notes made from the recordings.

A third layer of interviews related to their workplace practice was conducted with the learner-practitioners. The photographs that they had taken of their practices formed the basis for this interview. The interviewer probed each photograph for more clarity on the activities and the roles of the learner-practitioners in this process.

The fourth level of interviews focused on line function managers. A set of semi-structured questions was provided in advance to the managers to help them to prepare for the interviews. The questions formed the basis for the interviews but they were supplemented by other questions as the interviews progressed.

In total I conducted four interviews with learner practitioners, one focus group interview, two interviews with function managers and one interview with the course developers.

3.4.3. Document Analysis

Prior's (2003) definition of a document was particularly useful in helping me to identify the reason and the purpose of using documents. I reviewed some of the primary source documents e.g. course materials, the Portfolio of Evidence (PoE), minutes of meetings and workshop reports because they helped me understand the "fields, frames and networks of action" (Prior as quoted in Flick, 2006, p.2) of the course. The following documents were reviewed to compile the narratives and case study.

- The **course materials** provided insight into the course content and pedagogy. The course materials identified for analysis emerged through a process of conversations with the participants. Modules that were analysed were Module 3 on developing environmental learning programmes, Module 6 on developing an LTSM to support the environmental learning programme and Module 7 on the implementation of an environmental learning programme. Within the course materials the learning activities were analysed in detail. Module 4 and 5 were not used because module 7 integrated the theory and practicals from module 4 and 5 as it was a module where participants had to showcase how they implemented their programmes designed and how they facilitated the programme and evaluated the programme.
- The **Portfolios of Evidence (PoE)** illustrated the participants' understanding and how they negotiated the meaning between the course content and their workplace practice. The PoEs and the course materials that were analysed were linked to the same modules. Within the PoEs, the on-course and the workplace tasks were examined. Six PoEs were analysed: both learner-practitioners PoEs for modules 3, 6 and 7.
- **Minutes** and three **workshop reports** helped contextualise decisions on the course pedagogy.
- **Additional supporting resource materials** used on the course (e.g. programmes, worksheets and reflection sheets) were analysed to provide insight into the pedagogies used on the course.

Five other data sources examined were the Municipalities' Integrated Development Plans, Municipality Annual Report, Annual Reports of the provincial department, the Capacity Building Report from the provincial department and the Impact Report of the provincial department.

3.4.4. Photo Narratives:

Narratives of learner-practitioners helped capture the tacit elements of capabilities which are not

always visible or observable but that can be gathered from discourse and reveal areas for further investigation through interviewing. To support the development of these narratives, pictures and photographs were used as stimuli when course participants narrated their experiences of course pedagogy. In some studies for example Du Toit and Sguazzin (1999)), research participants were given cameras to take photographs and later narrate them. However, in this study I took the photographs of course participants during observations of the course and later asked the participants to narrate the photographs. These narrations helped to inform my subsequent in-depth interviews with the same course participants. I worked with four sets of narrated photographs.

3.5. Data Management

Data was carefully index coded and recorded to provide easy access to all data files. Table 3.2. below highlights the data management system used in this research.

Table 3.2: Indexing table

Documents	Indexing Code
Phase One: Data Collection	
Course Orientation document	D1
Learner Manual Module 3	D2
Facilitator Manual Module 3	D3
Portfolio Guideline Module 3	D4
Learner Manual Module 6	D5
Facilitator Manual Module 6	D6
Portfolio Guideline Module 6	D7
Learner Manual Module 7	D8
Facilitator Man Module 7	D9
Portfolio Guideline Module 7	D10
Facilitator Report Module 3	D11
Facilitator Report Module 6	D12
Facilitator Report Module 7	D13
Interviews	
Interview Course Developer	I1
Phase Two: Data Collection	
Contextual Maps	D14
Feedback Forms	D15

Programmes Module 3	D16
Programmes Module 6	D17
Programmes Module 7	D18
Capacity Building Report (GDACE)	D19
Impact Report GDACE: 2002 to 2006	D20
IDP Ekurhuleni Metro	D21
Annual Report Ekurhuleni	D22
Questionnaires	
Contextual Questionnaire	Q1
Interviews	
Contextual Interview with Learner-practitioner 2	I2
Contextual Interview with Learner-practitioner 1	I3
Focus Group Interview	FGI
Annotated Photographs Photographs Learner-practitioner 2	AP1
Annotated Photographs Learner-practitioner 1	AP2
Observations	
Observation notes Module 6	O1
Observation notes Module 7	O2
Phase Three: Data Collection	
Portfolio of Evidence Module 3 LP1 /LP2	D23/24
Portfolio of Evidence Module 6 LP1/ LP2	D25/26
Portfolio of Evidence Module 7 LP1/LP2	D27/28
KPAs Learner Practitioner 1	D29
KPAs Learner Practitioner 2	D30
BKB Progress Report	D31
Province's Growth and Development Strategy	D32
Growth and Development Strategy for MM	D35
Interviews	
Line Function Manager Learner-practitioner 2	I4
Line Function Manager Learner-practitioner 1	I5
Interview Learner-practitioner 2	I6

Interview Learner-practitioner 1	I7
Annotated Photographs	
Annotated Photographs Learner-practitioner 2	AP 3
Annotated Photographs Learner-practitioner 1	AP 4
Observations	
Observation of Work Place Learner-practitioner 2	O3
Observation of Work Place Learner-practitioner 1	O4
Observation of Implementation of Activities Learner-practitioner 2	05
Observation of Implementation of Activities Learner-practitioner 1	O6

The data in this research was generated from four key techniques as mentioned in sections 3.3 and 3.4, namely observations, annotated photographs, interviews and document analysis. Data was carefully labelled and stored in envelopes as it was generated. This enabled me to maintain all the raw data in one place. A vast amount of data was generated in this research which required very careful management, coding and storage. This made it easier for me to access and work with the different data sets.

I experienced various technical difficulties in trying to transfer the digital audio recording from the digital recorder to the computer. I maintained the original recordings on the tapes and stored it in that way. Transcriptions of each recording were member checked for accuracy. All interviews were transcribed and detailed observation notes were kept.

3.6. Data Analysis

According to Yin (2009) this is one of the most difficult parts of doing case study research. He noted that a significant amount depends on the investigator's own style of rigorous empirical thinking, along with sufficient presentation of evidence and careful consideration of alternative interpretations. In this study I tried to use two of Yin's (2009) general strategies for analysing data. These are discussed below

3.6.1. Developing a case description

This general analytical strategy involved developing a descriptive framework for organising the

case study. This is generally less favourable than relying on theoretical propositions but serves as an alternative. However, because I used a narrative approach, it was important to provide a very descriptive account in this research. At this level, the case description I developed focused on carefully describing the course and the pedagogy used on the course, the learner-practitioners, the workplace, the workplace practice of the participants and then the relationships between the course and the practice. Analytical memoranda helped with looking across the data sources and group all aspects related to the categories above. Bassey (1999) noted that analysis which seeks to condense data into meaningful statements is a useful way to both handle the data and try and make sense of it.

In creating an analytical memorandum for the course pedagogy, I looked across the data sets of course observations, course intentions, course materials and the interviews. To be able to analyse the data on workplace practice, I looked at observation notes from the visit to the workplace, the interviews with the course participants and their managers and analysed documents and policies relevant to the learner-practitioners' institutions and field of practice.

In setting up the analytical memoranda to explore the relationships between the workplace and the course, I primarily looked initially at data from the interviews with the learner-practitioners, line function managers, the Portfolios of Evidence and observations in the workplace. A second phase of analysis then required that I looked across data sets for emerging categories on pedagogy, workplace practice and the relationship between course and workplace. As I read the data on course pedagogies, I looked at key elements of pedagogies as contained in my literature review, namely interactions on the course, methods used, facilitation, learning and teaching support materials, the learning environments and the assessment practices to establish the dominant types of pedagogies. During this process, it became evident that three key pedagogies were dominant throughout the course, namely scaffolding, reflexivity and contextualised learning. This was observed in the following data sets, the observation of the course, and the interviews with course developers and the analysis of the course materials.

In analysing the data to capture trends between the workplace and the course, the theoretical framework of the study, namely social learning and capabilities, provided the lens through which to look into the data to reveal the relationships. I therefore used Yin's (2009) second strategy for analysing data, namely relying on the theoretical position.

3.6.2. Relying on theoretical positions

At this level of data analysis and presentation, I looked at key emerging ideas from the capability and social learning perspectives and included them in the categories for the analytical memoranda.

Key concepts included framing and reframing and functionings. This strategy used aspects of my theoretical position to help me examine my data. In turn this has shaped the data I collected and has therefore given priority to the relevant analytical strategies. The theoretical propositions have therefore guided the case study analysis.

Yin (2009, p. 136) suggested five analytical techniques, but I have concentrated on one in this analysis which focused on explanation building.

3.6.3. Explanation building

Here the goal is to analyse the case study data by building an explanation about the case. To explain a phenomenon is to stipulate a presumed set of causal links that may be complex and difficult to measure in any precise manner. In most existing case studies, explanation building has occurred in narrative form. Because such narratives cannot be precise, the better case studies are the ones in which the explanations have reflected some theoretically significant propositions. For example, the causal links may reflect critical insights into public policy or into social science theory.

The iterative nature of the explanation building process, for explanatory case studies, has not been well documented in operational terms (Yin, 2009). However, the eventual explanation is likely to be a result of a series of iterations. This has been the case in this research. At the first level, broad areas of data gathering and data analysis were established to explore the data. After the first set of categories was established, a second category emerged from the data, highlighting a need for more in-depth analysis to explore the relationships between the course and the workplace and the participants' practices.

The case study evidence was examined, theoretical positions were revised, and the evidence was examined once again from a new perspective in the second iterative mode. Through each iteration of data analysis, a gradual building of an explanation emerged, resulting in refining a set of ideas, in which an important aspect was again to entertain other plausible or rival explanations.

In order to facilitate the process of building up an explanation, I focused on analytical statements and used these to ground the discussions of the findings. The following analytical memoranda were set up to help create the explanation.

Table 3.3: Analysis Categories

Key categories	Emergent categories	Sub-sub categories
Understanding the Participants (Analytical Memo 1 – AM 1)	Personal/Educational Environmental Social climate Position in family Relational Workplace Experience	Positions Functionings Structure of workplace
Course Intentions (AM2)	Structure	
	Curriculum/content	
Actual Course Pedagogy (AM3)	Interactions: Learner and facilitator Learner and other learners Learners themselves	The key Emerging Pedagogies Scaffolding (AM 7) Reflection (AM8) Situated learning (AM9)
	Methods: Learner centred Scaffolding Dialogue Questioning Group work Reflexivity Other	
	Facilitation	
	LTSM	
	Learning Environments: Physical space Atmosphere	
	Assessment Practices Assignments on the course and in the workplace	
Work AM5	Workplace	
	Workplace practice	
Relationship between Course and Work AM 6	Framing	
	Reframing	
	Functionings	

An inductive method of analysis has been adopted, together with an abductive method (Walton, 2004). The inductive method has allowed for categories to emerge from the data to reveal ideas on pedagogy. In using the abductive method I have selected some categories from my theoretical vantage point of the capability and social learning perspectives to also look across the data. Aspects of agency, capability and freedom are used from the capability approach, whilst ideas of framing and reframing and dissonance have emerged from the social learning approach.

3.7. Trustworthiness and Validity

In this interpretive case study I acknowledge that there has been great emphasis placed on meaning-making and trying to understand the stories and experiences of the participants. Towards ensuring validity, the following key considerations have been taken into account:

- A **triangulation** process has been used, by using observations, interviews and document analysis to gain multiple vantage points on the same phenomenon.
- The instruments used to gather the data have been **pilot tested** to ensure they are appropriate and not biased.
- **Member checking** with the research participants has been used after each process of gathering data. Information gathered has been discussed with the participants to ensure accuracy.
- The research has also been grounded in “**thick descriptions**” where evidence collected substantiates claims made, as advised by Cohen et al. (2004).
- I have maintained a **reflexive journal** to capture useful thoughts and insights. This has supported my own critical reflections throughout the research process as well as provided a record of significant events.
- I have had access to a **critical friend** and work colleagues who have been able to observe the interactions and provide insight into the collected data to help ensure validity. I captured their contributions in my reflexive journal and through short interviews.

3.8. Research Ethics

All visits, interviews and observations were negotiated with participants and approval sought from the managers within the Provincial Department, the Metropolitan Municipality and DEC. As a researcher working within two workplaces, I endeavoured to observe the appropriate social protocols within the workplaces, in ways that minimised disruption to regular practices. The scheduling of observations was negotiated in advance. I endeavoured to ensure that my views as the researcher did not influence the views of the participants and grounded all statements within thick

descriptions. I ensured I had a critical friend to discuss the modules with who was able to support the meaning making through the use of dialogue which linked to the interpretive paradigm. The critical friend was valuable in providing an outside perspective to the course processes. Because I used photographs, necessary permission was negotiated from the research participants around issues of confidentiality. A letter was provided to all participants noting that confidential information would not be disclosed and performance on the course would not be used as an evaluation of their capabilities to perform their work. Cohen et al. (2004) noted the importance of ensuring everyone knows your principles, and that the research procedure is binding and known. To ensure this, I provided the participants with a schedule of times for observations and interviews and ensured that I was transparent in my intentions.

3.9. Conclusion

In reflecting on the tools used to help generate data, I found the use of the photographs to help capture elements of course and workplace practice an exciting approach that may hold considerable future potential as a research tool. The use of personal context maps as a method of capturing the life stories of participants is an interesting prospect for narrative research and perhaps it could be researched in greater detail as a data gathering research instrument.

CHAPTER 4: COURSE INTENTIONS, PROCESSES AND WORKPLACE PRACTICE

The data presented in this chapter outlines the findings relevant to the research participants, their workplace practices, the course (in particular its pedagogy) and the relationships that emerge between course and workplace practice. The structure of this chapter is guided by the research question, the objectives and the emerging trends that were observed. The data is presented as follows:

- Research participants are described;
- Workplaces and the workplace practice of the participants are explained;
- Structure, intentions, pedagogy and experiences of the course are carefully detailed; and
- Relationships and trends between the course pedagogy and workplace are explored.

To ensure rigour and validity, detailed descriptions are provided with an in-depth narrative constructed from the multiple methods used in gathering the data. Interviews, observations and document analysis were used to generate the data, as discussed in Chapter 3. This chapter begins by presenting the data relevant to the two learner-practitioners at the heart of this study: Learner-practitioner 1 and Learner-practitioner 2. Both practitioners were selected because they represented the provincial and local level government situations.

4.1. Contextual Profile of Learner-practitioner 1

4.1.1. Personal and Educational Context

Understanding Learner-practitioner 1 and her circumstances provides insight into her identity in a socio-cultural context. Understanding her social context helped me as the researcher to understand Learner-practitioner 1 in terms of her ‘working life’ and how she moved between the course and work (Jarvis, 2010).

Learner-practitioner 1 is a 34-year old single parent. Her position in the family of “being the eldest” of her siblings created a strong “sense of responsibility for the family” (I1, I3, AM1, 137-149). Financially she has many responsibilities particularly because her mother is a single mother who had four children to raise (I3, AM1, 34-38). Her family depends on her financially (I3, AM1, 149).

Learner-practitioner 1 has lived in a “semi-suburb” (I3, AM1, 123-133), enjoying a friendly relationship with her neighbours whilst maintaining a sense of independence with “everyone minding their own business” (I3, AM1, 123-133).

Engagement in religious activities provides a sense of focus to Learner-practitioner 1's life. At church she is involved in the "public sector committee which raises funds within the public sector" (I3, AM1, 181-185). She is also involved in the "young women's *manyane* which is a modern and stylish way of worshipping" (I3, AM1, 189). Culturally, Learner-practitioner 1 views herself as "being raised more into the Xhosa way of life" (I3, AM1, 40-43). Her father did not play a role in her life growing up, but she is aware that he was Zulu-speaking.

Learner-practitioner 1 has no formal qualification in the environmental field. Her qualifications obtained after matriculating in 1994 from Meridian College have focused on Human Resource Management and Events Management. She obtained a certificate in Human Resource Management in 1999 from Germiston Technical College and a Diploma in the Fundamentals of Project Management from the Damelin Education group in 2006 (D23). In 2009, Learner-practitioner 1 obtained a Diploma in Events Management from the Damelin Education Group (D23). The Diplomas were both level 5 and was her highest qualification.

Learner-practitioner 1's participation in the National Diploma in EETDP provides her with a specialised qualification in the environmental field. Learner-practitioner 1 places a significant amount of personal value on education to provide opportunities to improve herself and her career path (I3, AM1). Initially she was asked to register for the National Diploma in EETDP by her Director, without personally understanding its relevance in her workplace. However, as she attended, Learner-practitioner 1 started to find personal value in what she was doing and set the "course as a goal to achieve" for herself (I3, AM1, 45-35). Learner-practitioner 1 has found the "level of thinking ... and the way the course is taught" and the "confidence" it has built in her of personal value (I3, AM3, 439-444).

4.1.2 Learner-practitioner 1's Previous Work Experience

Learner-practitioner 1's work experience initially was as a receptionist at Climatron and thereafter as a secretary in the Department of Sport, Recreation, Arts and Culture from 1997 to 1998 and at the identified province's Shared Services from 1998. Her duties as a secretary entailed minute-taking, arranging meetings, typing memos, agendas, distributing mail, electronic tracking and filing of documents, diary management, screening calls and co-ordination of progress reports on programmes and projects (D23 - PoE).

Learner-practitioner 1 joined the identified provinces's Department of Agriculture, Conservation and Environment (DACE) in 2004 as the personal assistant to the Chief Director of Communication. She progressed to Administrative Officer in the Communication Branch and in

2006 to January 2009 she worked as a Senior Liaison Officer in the Stakeholder Engagement Directorate. Learner-practitioner 1 commenced the National Diploma in EETDP in December 2008 at a time when she was still in the Stakeholder Engagement Directorate. However, midway through the course, in January 2010, she was appointed Senior Communication Officer: Campaigns and Events in the identified province's Department of Agriculture and Rural Development (I3).

4.1.3. Learner-practitioner 1's Current Work Experience

Organising and planning events for the different directorates in the department (I3, AM6, 15-16) are key aspects of Learner-practitioner 1's job. She is part of a team that provides support services in organising and hosting events for each of the directorates. For example, each branch or directorate within the identified province may organise a particular event, such as a programme to honour the female farmer of the year, and they require the assistance of the Communication and Events Directorate to help them conduct all "communication, organisational and logistical arrangements related to the event" (I3).

The vignette piece in Appendix 2 provides a useful insight into Learner-practitioner 1's job and the tasks she is involved in. The vignettes further elaborate on aspects mentioned in the paragraph that follows. The duties she is engaged in require her to: "organise departmental events, manage and organise exhibitions, search for appropriate venues, issuing and conceptualising invitations, seeking permission for events from the organisational committee for events, which incorporates emergency services, health and the metro police" (I3, AM 6). She follows up with vendors and the procurement process for aspects of catering, and other services such as: "promotional materials, procurement of CDs, inviting a programme director or a guest speaker". She makes decisions on branding and marketing of the event as well as the type of promotional materials e.g. banners to be displayed at the event (Obs 4).

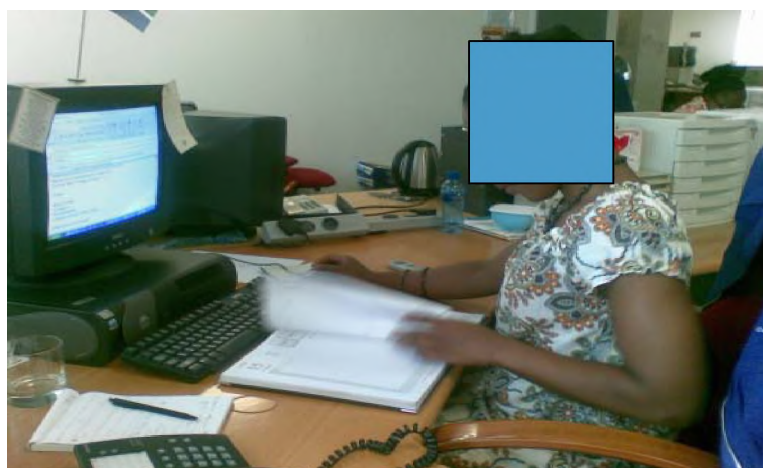


Figure 4.1: Learner-practitioner 1's office and work context

Learner-practitioner shares an open-plan office (see Figure 4.1) with other colleagues from her directorate and from other directorates. She has access to a computer, phone and other resources. She has trays clearly labelled for different types of tasks and keeps a diary.

4.1.4 Current Institutional Context

In line with this study's recognition that people's learning and development emerges from a particular socio-cultural context, this section outlines the institutional setting in which Learner-practitioner 1 works. Because she is employed within the identified province's Department of Agriculture and Rural Development (DARD) her work is influenced by the vision, mission, mandates and policies relevant to DARD. The following section outlines the vision and the mission of this institutional setting.

4.1.4.1. The identified Province's Vision and Mission

The vision of the identified province is to be "leaders in natural resources management" (D 19) and its mission is to "provide an integrated provincial management system for sustainable utilisation of natural resources towards quality of life for all" (D 19). The mandate of the Department is to:

- Defend and promote the people's right to an environment that is not harmful to their health or well-being.
- Combat pollution and ecological degradation, to promote conservation and to secure ecological sustainability and use of natural resources, whilst promoting justifiable social and economic development.
- Control and manage health risks of animal origin, ensuring livestock production, the availability and affordability of safe, healthy, high quality food and animal products. (D19)

The nature of the work involves human development issues and the sustainable utilisation and management of natural resources are foundational aspects of the identified province. Learner-practitioner 1 therefore requires a clear understanding of the various socio-ecological issues that are experienced in the province, as well as nationally and globally, to understand and support the various directorates of the Department.

4.1.4.2. Background of the identified Province

Since the advent of the South African democracy in 1994, the identified province has emerged as a provincial department to implement the mandates of the National Government and the Department

of Environmental Affairs. Environmental, conservation and agricultural policy interpretation, provincial policy formulation, awareness, implementation, monitoring and evaluation are fundamental to this organisation (D20). The elections in 2009 marked substantial institutional changes. Previously called Provincial Department of Agriculture Conservation and Environment, the department was renamed which marked an emphasis on rural development in the identified province with a stronger emphasis on agriculture. Although the concept of conservation and environment was now excluded from the name of the department, it still remained a key priority.

The institutional changes affected Learner-practitioner 1 considerably because she moved from the Directorate of Stakeholder Engagement to the Directorate of Corporate Communications at the start of 2010. This change entailed changes in her job function from being directly involved with communities in “capacity building” to management of “logistics for events” (I5, I3, FGI 1, AM6, 29-30). Learner-practitioner 1 noted that this affected her assignments on the EETDP Course, especially the implementation of her educational project with a particular community. When she moved departments, the people identified for her assignments initially were not the people with whom she was now working (I3, FGI 1, AM7, 11).

4.1.4.3. Policies influencing Learner-practitioner 1’s work

The mandates of DEA and the identified province are influenced and shaped by various policies and priority areas such as the Millennium Development Goals (D31, 19), the Johannesburg Plan of Implementation, and the South African Constitution (D31, 19). Other key documents include the African National Congress (ANC) policy framework (ANC, 1994) and the Growth and Development Strategy document for the identified province (D32, 19). The identified province draws its mandate from the “National Acts and National Regulations and the Provincial Acts and legislation” (D30). In the identified province, the ‘Batho Pele’ (‘People First’) principles form an important service standard for all government departments. The Batho Pele principles look at aspects of consultation, access, courtesy, information, openness and transparency, redress, customer impact, innovation and reward as well as giving best value. These principles are displayed in the elevators and the corridors of the identified province’s offices. The anti-poverty strategy developed by National Government has been translated into programmes and policies within the identified province, which focus on “developing the poor and previously marginalised communities” (D19, D20).

4.1.4.4. Institutional Structure

The discussion below outlines the institutional structure in the Department where Learner-

practitioner 1 is located. The identified province has five core branches, five transversal branches and two support service branches. The core branches are agriculture, strategic planning and governance, veterinary services and sustainable resource management, sustainable use of the environment and rural development. The transversal branches are compliance and enforcement, legal services, communication, knowledge management and transformation. The support services branches are financial management and human resource management.

Learner-practitioner 1 works in the communication branch which is divided into directorates. “Three directorates are located in the communication branch namely Stakeholder Engagement, Publications and Campaigns and Corporate Communications” (D29). Learner Practitioner 1 falls under the Corporate Communications Directorate, focusing on events and exhibitions. The branch is led by an assistant director and a director. In this directorate there are five individuals who provide “support to planning events across the different branches in the department e.g. veterinary services or conservation” (I3, D29). Learner-practitioner 1 is in a junior position in her directorate.

Learner-practitioner 1’s work experience has provided her with particular administrative and communication skills but not environmental knowledge and skills. Since 2010, Learner-practitioner 1’s work environment has changed and evolved, requiring her to develop new sets of skills and knowledge which she is able to transfer to any job in which she is involved.

4.2. Contextual Profile of Learner-practitioner 2

4.2.1. Personal and Educational Context

Learner-practitioner 2 is a 38-year old single parent with one child. She is the fourth child in her family, but owing to her status of working in the municipality, she has a tremendous responsibility placed on her by her family and the community. She feels that she plays many roles e.g. the “social worker”, the “advisor”, the “critic” and the “social services” to her family and community (I2, AM 1).

Learner-practitioner 2 lives in the community of Kwa-Thema on the East Rand of Johannesburg. Socially, she struggles to draw the distinctions between the community and her workplace due to people’s perception of her representing the municipality. She stated that: “The community view me as representing the Municipality and they come to me with their issues with the hope that I will be able to solve their problem” (I2, AM1).

Learner-practitioner 2 is involved at a local Christian church where she is a Sunday school teacher. Her social networks are strongly influenced by individuals from the church which is a central focus

in her life. She spends her free time devoted to church activities or helping her family. The teaching at the Sunday school provides her with a sense of purpose. She felt “peers are focused on a very materialistic social life, while I think more in terms of social security” (I3, AM 1, D14). Learner-practitioner 2’s sense of respect for her elders and seeking their approval in her endeavours is important to her. However, decisions relating to work are left to her because it is seen as her area of expertise. Emerging from her family responsibilities, engagement with her local community and the work at church, it is evident that her sense of community and community well-being are key focuses in her life.

Learner-practitioner 2 matriculated at Nkumbulo Comprehensive school in Kwa-Thema in 1994. Her highest educational qualification is a National Diploma in Environmental Management (level 5). She completed the Level 5 National Certificate in EETDP with WESSA in 2007 (D2). However, she asked not to go through a process of Recognition of Prior Learning (RPL) because she wanted to complete the full National Diploma in EETDP.

Other short courses she has completed are related to conflict management and auditing. Her conscious decision to join the National Diploma in EETDP indicates a personal intrinsic motivation because she has exerted personal choice despite the opportunity of RPL being available to her.

4.2.2. Learner-practitioner 2's Previous Work Experience

Learner-practitioner 2's past experiences relating to work are detailed in Table 4.1 below.

Table 4.1: Learner-practitioner 2's Work Experience

No.	Past Employer	Position held	Key Performance Areas
1	Telkom	Call centre agent - learnership	Customer care and conflict management
2	City Power	Trainee environmentalist	Environmental Management and implementation of ISO14001, project management, events management and environmental impact assessment compliance
3	Metropolitan Municipality	Internship programme	Facilitating awareness programmes, stakeholder liaison, management of events, project management and sourcing of external funding

It is significant to note that all Learner-practitioner 2's post-school education has been related to the specific job at the time and has taken the form of work-integrated learning such as a learnership and an internship. Her responsibilities involved a combination of administrative functions and capacity building.

4.2.3. Learner-practitioner 2's Current Work Experience

Learner-practitioner 2 joined the Metropolitan Municipality in 2005 on an internship programme and thereafter was offered a full-time position in the Metropolitan Municipality in the Environmental Policy and Planning Section. A core function of this section is Environmental Education and Awareness. Learner-practitioner 2 does not have core key performance areas (KPA) set up for her individually, but she works according to KPAs for her section as outlined in (D26).

4.2.4. Current Institutional Context

4.2.4.1. The Metropolitan Municipality Vision and Mission

Learner-practitioner 2's work aligns closely with the mandate of the Metropolitan Municipality (MM). The MM mandate is reflected in its vision and mission. Based on an analysis of the Integrated Development Plan of MM (D21), Table 4.2 presents the Metropolitan Municipality's vision, mission, values and strategic priorities.

Table 4.2: The Metropolitan Municipality's Vision, Mission and Strategic Priorities

Organisational focus areas	Aspects of the organisational principles of the Municipality
1. Vision	<i>The Smart, Creative, Developmental City.</i>
2. Mission	<i>The Metropolitan Municipality provides sustainable and people centred development services that are affordable, appropriate and of high quality. We are focused on social, environmental and economic regeneration of our city and communities, as guided by the principles of Batho Pele and through the commitment of a motivated and dedicated team. (D22)</i>
3. Values	<i>In pursuing the above-mentioned vision and mission the MM is committed to upholding the following core values: Performance Excellence; Integrity; Community Centeredness; Transparency; and Co-operative Governance</i>
4. Strategic priorities	<i>Seven strategic development priorities were identified by MM in 2001, which continue to form the foundation of the work MM is doing to work towards achieving its vision: Urban Renewal, Local Economic Development and Job Creation, Poverty Alleviation, Safety and Security, HIV and AIDS, Good Governance, Community Participation. (D22)</i>

Poverty alleviation, job creation and community participation permeate all aspects of work at MM. All elements of their Integrated Development Plan (2006-2011) approach development with a human-centred approach, for example, through a focus on sustainable livelihoods and food security. These priorities are given meaning at grass roots level by the workplace practices of officials such as Learner-practitioner 2 (see section 4.2.4.2).

To appreciate the vision, mission, values and strategic priorities of the Metropolitan Municipality as summarised in Table 4.2, it is necessary to locate its development in its historic, political and cultural context, as presented in the following section.



Figure 4.2: Learner-practitioner 2 in a meeting in the boardroom at the office

Learner-practitioner 2 has her own office space which is fully equipped with everything she needs to perform her work adequately. She has access to a phone, laptop and other resources e.g. a printer. She has a diary and a planner on her wall to help organise her time.

4.2.4.2. The Background of the Metropolitan Municipality

The Metropolitan Municipality was officially established in 2000. The MM emerged after the 1994 democratic elections and its mandate emerged from the ANC policy framework (ANC, 1994) and the National Constitution of 1996. These documents defined a new developmental mandate for local government and stressed that it should be socially led and focus on economic development (ANC, 1996). This concept was taken further in the 1998 Local Government White Paper and supporting legislation, which recognised that “municipalities face great challenges in promoting human rights and meeting human needs, addressing past backlogs and spatial distortions, and planning for a sustainable future,” (RSA, 1998, p. 36 in Mgwebi, 2010).

4.2.4.3. Policies influencing Learner-practitioner 2's Work

Learner-practitioner 2's work within the Metropolitan Municipalities' Environmental Policy and Planning Section is influenced by the Growth and Development Strategy for MM (D35) which

outlines a projected level of growth in all aspects of the municipality's work. A further policy which sets the background and has a large influence on Learner-practitioner 2's work is the MM Integrated Development Plan (D22). The Key Performance Areas for the municipality are outlined in this document and Learner-practitioner 2 draws her mandate from the KPAs to guide her work.

4.2.4.4 Professional practice

According to the Key Performance Indicators for the section in which Learner-practitioner 2 works, she has three key areas of work which are detailed below:

- Environmental Capacity Building – A unit comprising four people is required to train ten eco-guides per ward/including one environmental representative per ward, totalling 1 480 eco-guides. The unit is also required to have trained 165 councillors in environmental issues, including Environmental Ward Representatives.
- Environmental Communication & Awareness – Develop educational material, one newsletter (30 000 copies), LAB CD's, EMF CDs. To have established ten Environmental Education centres is a medium to long term goal in the municipal boundary. The unit must put out 12 media releases per year. The unit must have interacted with 530 schools through an outreach programme which incorporates aspects of the schools/conference, camp and the BKB programmes in the Metropolitan Municipality.
- Bontle ke Botho – “Clean and Green Campaign” (D24). The unit in which Learner-practitioner 2 is located must have registered 88 wards for the competition and have provided appropriate support. This was a short to medium term goal.

The Environmental Planning section report indicates that the Environmental Policy and Planning Section fell far short of achieving the above mentioned targets. Some of the key constraints encountered in meeting these targets were insufficient finances, poor councillor support, human resource limitations and staffing challenges. A significant constraint also noted in the report is the lack of understanding of the environmental priority and the inadequate representation of environment in the section's work. As a corrective action, a recommendation is contained in the document to add environment as the “8th priority of the municipality” (D24).

A further observation is that a large majority of the section's work is outsourced to service providers, which means that the staff in this section are not always responsible for facilitating (and hence understanding) the programmes or capacity-building workshops themselves (D24 -PoE).

4.3 Pedagogy associated with the DEC-National Diploma in EETDP

4.3.1 Overview

This section now focuses on the implementation of the National Diploma in EETDP, as implemented by Delta Environmental Centre and experienced by Learner-practitioner 1 and Learner-practitioner 2. Data analysis revealed various pedagogical strategies throughout the course but, within the scope of this study, I focus specifically on Modules 3, 6 and 7. These three modules were selected because Module 3 involved the development of an environmental learning programme, Module 6 involved developing the learning material for the implementation of the learning programme and Module 7 involved the implementation of the learning programme. The discussion that follows elaborates on the rationale for the pedagogical decisions that shaped the course and the course participants' experiences of it in particular ways. It focuses on the following pedagogies which I identified as most pertinent to this study's interest in the relationship between course pedagogy and work-based learning: scaffolding (section 4.3.2), contextualised learning (section 4.3.4), and developing reflexivity (section 4.3.3).

4.3.2 Scaffolding as Pedagogy

Scaffolding, as considered in this research, is presented as an analysis of the metaphor of scaffolding relating to the Vygotskian concept of the zone of proximal development. The term 'scaffolding' was developed as a metaphor to describe the type of assistance offered by an educator, facilitator or peer to support learning towards a mastery of a task which would have been difficult to do without support. The learner-practitioner moves from the "actual developmental level" to the "potential development level" (Vygotsky, 1978, p. 86). The purpose is to allow students to complete as much of the task unassisted as they can and only to support the tasks that may be beyond the learner-practitioners' current capabilities. Learner-practitioners' errors are expected, but with feedback and prompting from a more knowledgeable other, or colleagues, the learner-practitioner is able to achieve the task or goal. "Scaffolding is actually a bridge used to build upon what students already know to arrive at something they do not know." (Vygotsky, 1978, p. 86).

Many different tools can be utilised in scaffolding learner-practitioners' learning. Among them are: breaking the task into smaller more, manageable parts; using 'think alouds', or verbalising thinking processes when completing a task; co-operative learning, which promotes teamwork and dialogue among peers; concrete prompts; questioning; coaching; cue cards or modelling. Others might include the activation of background knowledge, giving tips, strategies, cues and procedures.

An important aspect of scaffolding in the ZPD is open dialogue between the learner-practitioners

and the facilitators to determine what and how they are thinking in order to clear up misconceptions and to individualise instruction. Crucial to successful scaffolding is an understanding of the learner-practitioners' prior knowledge and abilities. The facilitator ascertains what the learner-practitioner already knows so that it can be "hooked", or connected to the new knowledge and made relevant to the learner's life, thus increasing the motivation to learn (Lipscomb, Swanson & West, 2000).

4.3.2.1 Pedagogical Intentions of Scaffolding in the National Diploma in EETDP

The intentions of the course developers were carried into the course materials, the contact sessions and the assessment practices. This section begins by: (i) describing the course developers' intentions in the course design and course materials, before (ii) describing the actual process and experience of the course implementation, and finally, (iii) presenting an overview of the learners' experience of the scaffolding as a pedagogical strategy in the course.

The course design phase was underpinned by the writer's and the course designer's philosophical ideas about learning. I have been very closely involved in conceptualising, managing, facilitating and assessing the course. However, I also worked with a team of people who helped to conceptualise and write the course. During a discussion with the other course developer, we noted that "what underpinned our pedagogy is the idea that we believe in the idea of scaffolding". There was an underlying belief that "new knowledge needs to be mediated" and that people should not simply be "given things" and "thrown in" (I1, AM2). Two of the course developers are qualified teachers who have been working in the environmental sector conceptualising training and development practices.

A further intention of the course and in particular module 3, as articulated in the Interview (I1) was to "stimulate discussions on designing environmental learning programme... because it is not terminology they are used to" (45-49). Course developers also felt that the reading used in module 3: "would introduce new ideas, new concepts, new methodologies, and then give them an opportunity to work with it. So to work with it in terms of their relevant practice, their relevant contexts" (I1, 61-63).

From the data presented it is evident that the intention was to use mediating tools (e.g. reading or mind maps and peer discussions) to help learner-practitioners develop conceptual understanding through helping them to frame current practices, through "talking" (I1, 18) to understand the concepts, then helping them work towards learning new concepts and methods, and then using this to reframe practices in their workplaces.

Through engaging with the course materials, I noted that the manner in which the intentions of the course developers pertaining to scaffolding were represented, differed from module to module. Therefore each module is discussed separately.

4.3.2.2 Scaffolding as evidenced in the Course Materials

a) Module 3: Developing Environmental Learning Programmes

Module 3 focused on “Designing and Developing Environmental Learning Programmes” (D3) and comprised three units. The module aimed to support the learner-practitioners to achieve the following outcomes:

- Unit One: Understanding of the environmental crisis and issues and risk.
- Unit Two: The elements of an environmental learning programmes and its link to the broader goals of EE. Engage with stakeholders and develop a framework of environmental learning programmes.
Select, adapt, and organise an environmental learning programme. (Identify, solve problems, make decisions using critical and creative thinking).
- Unit Three: How to design and develop an original environmental learning programme.
Organise for effective implementation of an environmental learning programme.
Critically evaluate an environmental learning programme. Draft recommendations to improve environmental learning programmes from feedback. (AM4)

The outcomes for Module 3 highlight the concept of scaffolding because it starts by recapping previous modules, thereafter looking at examples of learning programmes and how to adapt them and finally in unit three, the learner-practitioners have to design something original, which is more complex.

Module 3 supported work from Modules 1 and 2. Module 1 focused on “Identifying a local environmental challenge”, analysing the environmental challenge and then understanding the environmental issues and risk and the ethical dilemmas presented. Module 2 focused on understanding “People Environment Relationships over time”, the responses to the issues and risks from a policy and the organisational and individual perspectives with a focus on educational processes. Learners had to design a project to address a local environmental issue that had been identified. Refer to the course structure in Chapter 1 (Table 1.2 in section 1.2.5) for more information on the course, focus of each module, the duration of each module and the support provided.

The learner manuals for Module 3 contained particular design features such as learning tasks (D2,

AM4) whilst the Portfolio of Evidence (D3, AM4) contained a combination of ‘On-course tasks’ and a ‘Workplace task’. The data below extracted from the course materials for Module 3, highlights the three key types of tasks contained in the course materials which indicate how scaffolding unfolds on the course. Refer to Appendix 3 (Table 4.3: Summary of Learning Tasks, On Course Tasks and Workplace Tasks as Scaffolding Process in Module 3) for more detail.

LEARNING TASK 1

PART A: Read the article ‘Elements of Effective Environmental Education Programme’s, which is included as Annexure A. Follow the prompts and highlighted aspects as you read. Use the following reading guide to help you unpack core elements of the article...

LEARNING TASK 2

Develop a mind map exploring approaches to environmental education:

Read through the two sets of guiding principles for Environmental Education (Tbilisi and Earth Charter principles). Highlight all references to methods and approaches to education that emerge for you.....

On-Course Task - PoE TASK 1

This task will be done on course. You will be working collaboratively in a group. Remember environmental education (EE) learning programmes ‘are an integrated sequence of planned educational experiences, activities and materials designed to reach a set of defined objectives’. Within this task you are going to ADAPT a short educational programme. Adapting means looking carefully at aspects like: context, content, objectives, methods, support materials and deciding how you can adjust and change to suit your learner group and context. You will be given a planned educational environmental programme...

Workplace Task - PoE TASK 2: *This is an individual task. In this task you will be required to design an ORIGINAL learning programme. You will then need to organise the implementation of that programme, gather feedback and use feedback to improve your programme.*

PART A: Describe the context and learner group

PART B: Designing an environmental learning programme ...

The conceptual understanding of the environmental learning programme that was developing through the learning tasks on the Monday of a course contact session became the starting point for the on-course tasks on Tuesday and Wednesday, when learner-practitioners observed and redeveloped an environmental learning programme for a group. The intentions of the “learning tasks” and “on-course tasks” were to be completed in a supportive environment with peers, and the

course facilitators, “to get them into a discussion” (I1, 23-25) thereby preparing the learner-practitioners for the completion of the workplace task. The “learning tasks” helped to mediate the text in the learner manuals and to provide opportunities for the learner-practitioners to think about the knowledge being presented and not simply accept the knowledge as given. Learning Tasks support the link of the knowledge to relevant personal situations e.g.

How is an environmentally literate citizen described in the article? How is environment viewed? The article discussed the policies guiding EE in the USA. What are the policy imperatives supporting EE practice in South Africa? How does the article view context and relevance within EE programmes? (At which levels? Explain.) (D2, 196)

The workplace task required the learner-practitioners to individually develop an environmental learning programme for a group in the workplace. They had to consolidate knowledge acquired through applying the skills into a real situation at work. The design feature of the three types of tasks (namely learning tasks, on-course tasks and workplace tasks) supported conceptual⁹ scaffolding and explicit scaffolding through doing things together and then working towards the learner-practitioners being able to work independently. The manner in which the course materials are designed, act as the tools or the artefacts to support the “metaphor of the scaffold” towards the ZPD.

In the Module 3 course materials, the following types of scaffolding methods were used to help the learner-practitioners to work towards the zone of proximal development: “reading tasks” with open-ended questions, “mind maps”, working co-operatively with a peer in groups and with a facilitator as the more knowledgeable other.

The course designers and I, acknowledged that the portfolio tasks were designed to pull together the “ideal course knowledge into some kind of reality” (I1, 180). The “government reality however is very difficult” because their mandates “have become politically driven” (I2, 231). The government mandates are informed by the political situations and the relevant policies in South Africa. The intention was that the PoE would provide the platform for the learner-practitioners to “stop and reflect and draw things together into actually doing something” in the workplace (I1, 151).

b) Module 6: Designing and Evaluating Original LTSM

Because the course is made up of a number of activities, the course materials have been designed differently. Module 6 is made up of two parts. Part one is made up of four units and focuses on

⁹ Conceptual scaffolding:

selecting and adapting an environmental LTSM. Part two comprises three units and focuses on designing and evaluating an original LTSM. The initial text at the start of the manual highlights the intention of the course developers which notes: “you will then guide yourself through a learning process” (D5, AM4). The intention is that learner-practitioners, by working through the activities, will be able to guide themselves with or without help towards developing an understanding of the content. A further intention of the course developers was to:

find a balance between knowledge, making it relevant, introducing new knowledge, making it relevant within their new work context and creating opportunities to try new things out. I think those for me have been the underpinning ideas. (I1, 287-290)

The learner’s manual is made up of a number of learning activities. The questions in the activities act as cues for the learner-practitioners and help to mediate the content through acting as a bridge between what learner-practitioners already know and are familiar with, towards something they do not know. Scaffolding occurs through the systematic process of working through questions in the form of “short activities” (I1) which make up the learning tasks and “help them focus on little things” particularly because the learner-practitioners were “not developers of materials” (I1, AM2). The questions provoke thinking by first framing the practices they are familiar with e.g. “what helped you learn” and provide little steps towards attaining and working with the bigger and more difficult content. The intention is that the facilitator also provides supporting resources e.g. worksheets to help mediate and scaffold the person through the task.

In Table 4.4 below, a selection of two tasks from Part 1 of Unit 1 are summarised to highlight the careful progression of conceptual knowledge in the design of the learning activities. The questions used as scaffolds facilitate learner-practitioners’ ability to build on prior knowledge, as noted in Unit 1 Activity 1 in the table below, thereafter enabling the learner-practitioner to internalise new information as asked in point 4 in Activity 2 in Table 4.4. below. The questions increase in complexity towards the end of each task.

In Module 6, the learning tasks and the on-course task are the same. The learners complete the learning task whilst they are at Delta Environmental Centre through working with a facilitator and other members of the group. The process facilitates working and familiarising themselves with the content and questions with the support of others so they can apply their competence to the more difficult tasks and work towards becoming independent and being able to solve the problems they encounter.

Table 4.4: Scaffolding as noted in the learning tasks in Module 6

Type of task	DESCRIPTION OF TASK	SCAFFOLDING METHODS USED
Unit 1 Activity 1	What helped you learn? Think about something that helped you learn. Think about an object, or printed material, that you have learned something from in the past. Make a list of the key features that you liked about it and what you learned from using it. Share your ideas about the resource with the other participants. (D5, p.7, AM4)	Using prior knowledge Use of questions Cooperative strategies through sharing with peers
Unit 1 Activity 2	Looking at printed materials During this activity we will now explore features of printed materials - Choose one of the materials from the selection provided. Choose ones you find in your workplace/library/ etc. - Answer the questions about it on the record sheet on the next page. - Share a few key points about your choice of material with others. - In plenary, have a discussion about printed materials and their use as learning support materials. During the discussion, you will identify some criteria that can be used to help assess printed materials. (D5, pp. 8-11, AM4)	Use of questions moving from the simpler to more complex questions Cooperative engagement in discussions
Unit 2	ACTIVITY 8: An adapting exercise <i>Adapt materials to suit a case study.</i> - For the learning programme described in Box 2.5 the facilitator chose the materials shown in Box 2.7. Which one/s do you think need to be adapted to make them more suitable for the programme? Describe the way in which you would adapt them. - Do some research to find examples of materials that have been adapted to suit particular contexts. You could also interview your colleagues to find out what has been done in your workplace. (D5, AM4) Make a list of some of the benefits of adapting materials and the challenges. ACTIVITY 9 Adapting materials for <i>your</i> learning programme <i>Plan and adapt materials for your learning programme</i> - Select an example of material from your collection that you think could be adapted for your learning programme. Use the form below to plan how you would do this. - Adapt the materials for your programme. In your portfolio, you will need to include a description of how the materials were adapted. If appropriate, you can include the actual materials in your portfolio or photographs of them. (D5, AM4)	Case study Questions – probe deeper thinking Learning from peers – co-operative learning The questions act as the conceptual scaffolding tool mediating the activities to provide direction to learner-practitioners on what needs to be achieved.

The learning tasks start with an experience that learner-practitioners are familiar with “that is, thinking of a resource that helped you learn” and then moving into supporting learner-practitioners to “explore features of printed materials” possibly an unfamiliar topic which is not key to their jobs. The workplace tasks require learner-practitioners to design original learning and teaching support materials (LTSMs) for the group of people they identified to work with in their previous tasks. The role of the short learning tasks is to facilitate moving the learner practitioners towards completing the more difficult workplace tasks independently.

The following key methods have been used in Module 6 to scaffold the learning: co-operative learning involving peers and the facilitator in dialogue and discussion, utilising prior knowledge to support the development of new knowledge, case studies and open-ended questions. The use of different types of tasks e.g. learning tasks, on-course tasks and workplace tasks are used to support conceptual progression towards the zone of proximal development.

c) Module 7: Implementing Environmental Learning Programmes

The scaffolding approach adopted in Module 7 was different from the approach used in the other modules. Module 7 focused on the Implementation of a Learning Programme. This module had the following outcomes, as prescribed in the Learner Manual for Module 7 (D6, AM4):

Decide on the content of the learning event; Formulate the outcomes to be achieved in the learning event; Develop a series of activities; Create, select and adapt learner support materials or equipment for each activity; Revise the activities if necessary; Develop or adapt assessment activities; Evaluate the learning event plan and materials; Take responsibility for implementing an ELP; Ensure effective mediation of an environmental learning; Implement an ELP according to the principles of OBE; Manage a group of learners appropriately and effectively; Evaluate an ELP; Implement existing administrative systems in the workplace; Organise and maintain the learning environment; Handle petty cash efficiently and accountably; Keep records and prepare reports; Plan for learning interaction that respond to learner needs; Structure tasks and select learning support materials that will promote learning; Manage and reflect on learning interactions; Consider the role of language in learning; Reflect critically on implementation of an environmental learning programme or action project; Adapt activities based on evaluation; Identify self-development needs and take responsibility for fulfilling these. (D6)

The outcomes of Module 7, as drawn from Unit Standards, indicate a culmination of identifying and analysing an environmental issue, developing a response to the issue in terms of an action project and a learning programme, facilitating evaluating and designing materials to implement the programme and finally implementing it. Module 7 was designed to help the learner-practitioners synthesise the course and to show how they implemented and reflected on the learning programme and to consider the changes they would make in the future. Module 7 requires learner-practitioners to show a reframed practice and how things have been done differently.

In the course materials, three types of tasks are identified: learning tasks, on-course tasks and workplace tasks (D10). The learning tasks were structured in the manual whilst the on-course tasks and workplace tasks were included in the Portfolio Guideline documents. The on-course tasks

required the participants to plan for their implementation whilst the workplace task was an implementation-based task. An example from the document is provided in Appendix 6.

I have not included the full task but have extracted the most relevant aspects to show the conceptual progression in the materials towards more complex concepts, activities and tasks. The learning tasks and the on-course tasks form the basis for the processes on the course. A comparison between the on-course task and the workplace task highlights the process of planning involving: (i) recapping the design of the learning programme and thereafter planning the implementation; and (ii) designing the evaluation and establishing a system of recording the process. The actual implementation process in the workplace through the workplace task requires the learner-practitioner to implement the programme of learning planned, document the process, conduct the evaluation, reflect on the process of implementation and then to make recommendations for improving the practice.

An analysis of the course materials reveals the following methods as pedagogical processes enabling and supporting pedagogy:

- The use of readings, case studies and questions embedded in texts as semiotic language tools of mediation and concept development;
- Collective and co-operative engagement with peers and more experienced colleagues through social contexts embedded in the learning situations that provide a useful platform to expand achievement towards the zone of proximal development;
- Developing mind maps; and
- Exploring the prior knowledge of people, as embedded in a social space, from the essential aspects of pedagogy as contained in the course materials.

4.3.2.3 Actualised Evidence of Scaffolding through Course Processes

This section focuses on how the scaffolding was articulated on the course and on the experience of the learner-practitioners of the scaffolded pedagogy. The discussion first highlights the unfolding of scaffolding through course processes.

a) Module 3: Developing Environmental Learning Programmes

i) Scaffolding through guided reading

Guided reading tasks using a case study entitled ‘Elements of Effective Environmental Education Programmes’ was incorporated into the course materials for Module 3, to provide learner-practitioners with a way to negotiate difficult content. The intention of the reading was to involve the learner-practitioners in “opening up discussions” (I1) about “elements of a learning programme” (I1). The intention was to allow “learner-practitioners the opportunity to work through the questions and in so doing uncover new concepts and ideas” (AM2).

A set of guiding questions in the form of a worksheet accompanied the case study to help focus the learner-practitioners on particular aspects contained in the case study and scaffold them through the reading. The guided questions in the worksheet looked at aspects of “policy influences”, “principles of EE and its relevance”, “methods and learning theories”, “stakeholder roles”, “best practice examples”, “context and its relevance to EE” and finally explored the idea of an “environmentally literate citizen” (D2).

During the contact session on the course, the facilitator asked the learners to read individually and thereafter to discuss the questions in groups and complete the worksheet. Learners were allocated 35 minutes to complete the reading and 15 minutes to complete the worksheet. After 50 minutes the facilitator asked the learner-practitioners if they had completed the reading. The learner-practitioners noted they were still busy reading, because the article was “difficult” and “long”. The activity took approximately 2 hours and 15 minutes. (AM4)

The facilitators believed the reading process would be a very “useful entry point” (D6) for the discussions. However a key challenge they encountered was the amount of time taken by the course participants to complete the reading. Facilitators in the reports noted “readings should be simplified and abridged or summarised” (D6).

During the course contact session, the learner-practitioners interacted with Learning Task Two when the facilitator asked them to read about the principles of Environmental Education. Two sets of principles were provided: the Tbilisi Principles and the Earth Charter Principles (AM4). Learner-practitioners synthesised the information on the key approaches and methods and wrote it onto strips of paper. A mind map with the coloured strips of paper was created on the wall. Some of the approaches highlighted were “holistic”, developing “critical engagement and problem-solving skills” and “participation” (D28). Thereafter a discussion on the approaches ensued with the facilitator asking the learner-practitioners questions, for example “Why is this particular approach significant to your work context?” and “How would this impact on the decisions you would make on programme design?” (AM4 – 78-79). The facilitator was encouraging the learners to think more deeply about their practice to help learner-practitioners to understand and frame their practices and then bring the discussion to their work practice and its implications for how they do things.

ii) Course Processes supporting the use of On-Course and Workplace Tasks to Scaffold Learning

The facilitator on the second day provided the learner-practitioners with the On-course Task. The City Year Programme which is a Youth Service Programme was bringing a group of youth to Delta Environmental Centre on a one-day training programme to foster an understanding of the concept

of the environment. The learner-practitioners' task was to critically evaluate the programme the City Year students were engaging in at Delta Environmental Centre. They were required to interview the City Year youth during their visit to the Centre and develop a contextual profile of the group. After getting to know the students, the learner-practitioners were required to observe the learning activities in which the City Year students were engaged, and to record both the methods that were used and how they felt learning was taking place. Some of the questions Learner-practitioner 2 asked the students were "What is your name? Where do you come from? What have you studied? What do you enjoy doing? What are your aspirations in life? Why did you join the City Year Programme and how do you feel about the environment?" Learner-practitioner 1 asked the students similar questions. After the interview with the students, the facilitator directed the learner-practitioners: "Let us discuss your interactions with the students. What have you learnt about the students? In what way do you think this knowledge of the students can influence programme design?" Learner-practitioner 1 noted "they are not really interested in the environment. The one I interviewed wants to be a fashion designer, so I feel it is about using what they like and what they know and looking at things that affect them immediately" (O1). Through the process of discussion amongst the facilitator and the learner-practitioners and amongst the learner-practitioners themselves, learning from peers and a facilitator through engaging in a real situation supported the scaffolding of the learning towards the zone of proximal development. Through the conversations and dialogue, the learner-practitioners began to deconstruct the situation and look at other possibilities. For example, how they could build on prior knowledge and understanding and create a more meaningful and situated experience for the students.

The learner-practitioners observed the learning programme with the City Year Youth group engaging in different environmental activities which involved a presentation of wetland on the Braamfontein Spruit, accompanying the youth to the river, conducting a catchment observation and conducting water quality testing. Afterwards the learner-practitioners, working in groups, were asked by the facilitator to "reflect on what you observed and noted as you watched the programme and what you know about the students ... How do you think the youth experienced the programme? ... What do you think is the relevance of this programme? ... How does it link to the discussions we are having on change oriented learning? ... What implications does it have for future programmes to be developed?" (O 176-191). "Analyse the methods used on the programme with the youth using the principles of the Earth Charter, Tbilisi and also the two readings together with the contextual profiles developed of the youth". During the discussions, some key insights emerged from the learner-practitioners. For example, Learner-practitioner 1 noted: "I feel the programme didn't really understand the youth and where they are coming from. It didn't bring the idea of environment to them. It was telling them what to do and what to think" (O176-191).

The engagement in a real environmental learning programme with the youth group provided an example of a learning programme the students could explore critically. It served as a way of “modelling” different methods in environmental education, types of learning and teaching support materials, learning environments and facilitation approaches. The worksheet provided some examples of questions that the learner-practitioners had to look at when exploring the different methods and understanding how learning was taking place through the mediation of the different learning activities.

Each group then worked together to note how they would change or adapt the programme for the group. Each group made a presentation. According to the course developers, the actual practice gained through completing the task provided an opportunity for the learner-practitioners to: “pull the ideal course knowledge into some kind of reality” (I1, AM2) and to be active participants in the learning process. The process of scaffolding involved ‘modelling’ in a real life experience coupled with critical reflection and dialogue to engage in developing a reworked programme as a possibility.

The workplace task required the learner-practitioners to develop a programme for a group with whom they worked. It could be a community group, youth group, school, colleagues etc, but it had to resonate with what they do at work. Scaffolding was provided to the learners throughout, from completing the on-course task in a supportive environment with other learner-practitioners and the facilitator, to undertaking an independent workplace task.

4.3.2.4 Learner-practitioner 1’s Experiences of On-Course and Workplace Tasks

Learner-practitioners’ portfolios for Module 3 indicated that they paid careful attention to the “principles and goals of EE in selecting methods” for their on-course tasks. In the learning programme plan, Learner-practitioner 1 noted aspects of “participation”, “discussion”, “solving problems and taking action” on the wetlands and “developing analytical skills” (23) as the basis for the methods that she selected.

When working on her plan for her workplace task, Learner-practitioner 1 paid close attention to the principles and goals of environmental education. She clearly linked her selection of methods to the goals. For example Learner-Practitioner 1 looked at “developing awareness and knowledge” through a “case study” and by engaging individuals in “looking around the area and naming all the things that form part of their environment” (D23). She further noted in her Portfolio of Evidence for Module 3 that if she wanted to achieve “problem solving” about issues of waste generation, dumping and littering, then engagement in “creative action” involving “analytical thinking” through the use of “pictures” to generate discussions, together with “presentations” and education on “recycling” would be useful (D23).

4.3.2.5 Learner-practitioner 2's Experiences of On-Course and Workplace Tasks

In Learner-practitioner 2's portfolio task of Module 3 she made reference to the Tbilisi principles in noting that her group's Wetland programme developed for the youth group will "foster clear awareness of the ecological interdependence of wetlands", "provide every learner with opportunities to acquire the knowledge, values, attitudes, commitments and skills needed to protect and improve our wetlands" and to "change behavioural patterns of individual learners" (D24). The scaffolding provided by the activity during Module 3 appears to have provided Learner-practitioner 2 with sufficient insights into the principles guiding EE that she was able to proceed with confidence with the PoE task of developing an environmental learning programme for a group relevant to her work.

In reviewing Learner-practitioner 2's workplace task (of designing an original environmental learning programme), it was noted that she linked the principles and approaches of environmental education namely aspects of "critical thinking, problem based learning, and experiential learning" to her methods. These entailed developing a school map and exploring an ecological footprint; conducting a waste audit at the school, followed by creating art out of waste, and looking at recycling" (D24).

During a focus group discussion, both Learner-practitioner 2 and Learner-practitioner 1 indicated that they felt the value of the on-course task with the youth group "was the building up of the POE and then the design and development of the environmental learning programme" (FGI 1). Learner-practitioner 2 noted that the portfolio tasks "started to become more concrete", because she felt that she was doing it a "second time" and was improving on the task she "did in class", making it "easier" for her to understand and complete (FGI 1).

In reflecting on the data presented above, it would appear that scaffolding, through a process of work-together (on-course tasks) and work-away (workplace tasks), facilitated the process of building learner-practitioners' confidence in completing tasks in the workplace.

4.3.2.6 Module 6: Developing Original LTSM (Learning and Teaching Support Materials)

During the contact sessions the learner-practitioners worked in groups, discussing and completing the task (as described in section 4.3.1.3.). The facilitator drew on learner-practitioners' prior knowledge and the experiences of the group in completing Unit 1 activity 1. Learner-practitioners' prior knowledge was accessed through a process of using questions and discussions to highlight the manner in which learner-practitioners learnt when they were at school. The questions posed by the facilitator appeared to encourage the learner-practitioners to think more deeply about their

responses and to consider aspects they had not previously considered. The learner-practitioners were involved in working with something that was familiar to them and then moving into concepts that were not so familiar, for example “learning and teaching support material” because it was outside their frame of practice in its current form. The following extract from my observation notes during the contact session illustrated the way in which the questions were used to help access prior knowledge and experiences in the group and formed the basis for a discussion that followed.

Facilitator asks the question “What has helped you learn when you were at school?”

Learner-practitioner 1 says the radio, while Belinda says newspapers...

Facilitator then poses the question, “Which aspects of the newspaper helped you learn?”...

Belinda notes that pictures and texts in the paper helped her learn ...

Facilitator then probes ... e.g. “What type of texts?”...

Belinda says the practical aspects building on Themba’s idea of bottlecaps.

Facilitator asks “What did you like about using texts and pictures?”

Learner-practitioner 2 says it made it easier. Drawing on own experience..., real..., relevant...

Facilitator asks Learner-practitioner 2 what would be an implication of knowing that what helped her learn at school was something that drew on her own experience was real and relevant in how she selects materials. (O1)

The questions posed appear to range from simple and straightforward questions to probing and more thought-provoking questions. The last question was asked as a way to move the learner-practitioner’s thinking towards a more critical engagement with the ideas in this discussion and to help to centre the discussion on their role in selecting materials. The role of the questions during the contact session facilitated the learners to move between the activity, the course materials and their own practice in thinking about selecting materials. The questions act as the building blocks of the scaffolding by providing an opportunity for the learner-practitioners to expand their knowledge through dialogue and in-depth thinking.

Facilitators on the course felt that although the learning tasks were useful in introducing the learners to new knowledge as they worked through their manual, it was difficult for learners to assimilate the tasks into the portfolio. “Too many small tasks” (D12) were difficult to manage according to the perception of the facilitator. Not all the learning tasks were completed during the course session because many of the tasks required a vast amount of time and because it was made up of two parts namely the adapting task in Part One and designing original environmental learning material in Part Two (D12). Part One had four units and Part Two had three units. In total there were 17 learning tasks in Part One and 14 learning tasks in Part Two.

During the assessment of completed portfolio activities (D24) both learner-practitioners, Learner-

practitioner 2 and Learner-practitioner 1, completed all the tasks. I noticed that as Learner-practitioner 2 and Learner-practitioner 1 worked on the learning activities they were explaining what they were doing and justifying their decisions. Both learner-practitioners were clarifying their thinking about the different learning processes they had been exposed to during the contact session and reinforcing and making ideas concrete. In Learner-practitioner 1's learning task for Activity 3 in Unit 1, she noted that she had chosen the picture-based resource 'The Urban Jungle' to adapt because it was relevant to her group of community members but also because "more attention is given to the avoidance of waste as a first priority" (D) In completing her workplace tasks, Learner-practitioner 1 noted the following in her activity on Choosing Materials (D24):

My learning material that I chose was the Urban Jungle, for the Learning Programme (Waste Management) for the informal settlement in Holomisa, next to the informal settlement landfill site. This is how I'm going to adapt my LTSM: Supplement the pictures, that will show lack of waste collection system and appropriate waste collection system, Language: information to be translated into one vernacular language, presentation with pictures, have pictures supporting what I'm saying. (D24)

The questions in the learning tasks in Module 6, as detailed in Appendix 5, have helped her to clarify the process of selecting and critiquing her LTSM and the task of recording it, has helped her gain a clear insight into the changes that she would need to make. Although the many questions are difficult for the learners to assimilate into a task for the POE, they appear to have supported their learning process. Learner-practitioner 1 noted in an interview that the POE tasks had helped to "reinforce the learning process and helped to make things more concrete" (12). Learner-practitioner 1 felt Module 6 provided her with a sense of confidence in her own ability: "I well like never imagined myself designing one ... I never imagined myself being this creative. It was like at the back of my mind" (FG1).

During the focus group interview Learner-practitioner 2 explained her experience of the pedagogy in this course session as "developing critical thinking" because "the facilitator introduced the activity and the learners had to find ... everything for himself and herself and then it was learner-oriented and a lot of action-oriented and then the interaction with the resources, the questions that followed..." (FG1). Scaffolding occurred at various stages and levels during session on Module 6 At the start of the session, scaffolding took the form of verbal instructions and guidance provided by the facilitator, for example, reading through the notes on Case Studies and responding to questions about how to approach the task. Thereafter, the students had to use the questions in the task to find the information required. The questions mediated the process of learning by guiding the learners through the process of what to do and did not require the facilitator to give the input. The

learners worked in pairs completing the task and finding the relevant information from books in the Delta library.

In her portfolio Learner-practitioner 2 reflected an ability to “design a poster for the clean and green campaign ... I advised on the content ... ensured that it was relevant to the community and the project ... and that it had recent information” (Module 6 POE reflection).

4.3.2.7 Module 7: Implementing an Environmental Learning Programme

The approach advocated in the structuring of Module 7 differed from the previous modules. Below is the programme for the week for Module 7.

Table 4.5: Programme for Week 15 March – 19 March 2010

Monday	Tuesday	Wednesday	Thursday	Friday
Review of modules: Looking at what we have learnt so far	Reflecting on work and recapping ideas on the learning programme from Modules 3 and 6	Recapping of work Maintaining of administrative systems for the learning programme – Excel – developing databases	Report writing session	Reflecting on practice – key considerations Value of reflection
9h00 - 10h00	9h00 - 10h00	9h00 - 11h00	9h00 - 11h00	9h00 - 10h00
Review of assignments for Module 6 – using a worksheet to guide the review process	Planning for project implementation – What to consider?	Preparation of Task Two Part Two – Developing an implementation plan	Preparation of evaluation plan	Planning the administrative systems – Presenting the systems to the group
10h00 - 11h00	10h00 - 11h30	11h30 - 13h00	11h30 - 13h00	10h00 - 12h00
Presentation of the adapted material from Module 6	Presentation and working session on designing implementation or operational plans	Presentation of the implementation plan to a group of peers and Delta staff	Presentation of the evaluation plan	Introduction to workplace task
11h30 - 13h00	12h00 - 13h30	13h30 – 14h00	13h30 - 14h00	12h30 – 14h00
Presentation of the original LTSM	Budgeting and financial planning for the implementation of the programme	Revising implementation plan based on feedback	Revising the evaluation plan based on feedback	Discussion on all outstanding aspects tasks
14h00 - 15h30	14h00 - 15h30	14h00 – 15h30	14h00 - 15h30	14h00 – 15h30
		Presentation of Task Two		

NB. Students were given feedback on assignments during the course of the week in the mornings from 7h30 until 9h00.

The actual pedagogy unfolded through learners working with more experienced individuals in the form of subject experts on Tuesday, Wednesday and Thursday mornings. This was followed by an independent working session by the learner-practitioner on planning the assigned task. The learner practitioners then presented their task to their peers and other facilitators from Delta, excluding me, and received feedback. The feedback was captured on a form by their peers and the other facilitators. Based on the feedback they received, they worked further on their plans and reworked them to incorporate the feedback (O3).

The facilitator's intention, as articulated in the Facilitator Report (D18), was to:

... provide participants with the space and time to prepare and complete all their planning on course, so they would have had a structure when they went back into the workplace and to implement would be easier.

It was also to ensure that during the course of the contact session they would gain some new knowledge and practical skills relevant to their workplace. This was a very good strategy as the participants got feedback at every step of their task. The course actually created the opportunity for the participants to complete large parts of their POE tasks and to go away with real concrete activities completed with feedback. (D13)

Facilitators felt that this type of strategy had enabled the learner-practitioners to reflect on their plan and helped them to clarify, ask questions and receive feedback related to the workplace-based activities, before the learner-practitioners went back to their workplaces.

The learner-practitioners felt that the process of completing the learning tasks was helping them to understand the work from the course and making things clearer as noted by Learner-practitioner 1 when she said "... but in a way you here and you pushing to say that this is what you need to do, and setting me time frames... Making me do it here and deliver it before we leave is good ...". (AM3, 348-349). It was felt that if they had a clear plan then it would be easier to understand what needed to be done in the workplace and to "link the course and the workplace" (I1).

Learner-practitioners found it a challenge to assimilate their portfolios and complete workplace tasks adequately as noted by Learner-practitioner 2 when she said "and I just get caught up with everything" (I2) because when learner-practitioners return to work they have multiple priorities and projects at the same time. The learner-practitioners felt that providing time on the course for them to complete their portfolio tasks and to get feedback was very valuable for them because they went away with an idea of what to do. In assessing their portfolios, however, I observed that despite having a close link between the on-course and workplace tasks, the learner-practitioners still found difficulty in implementing the plan they had developed for the environmental issue they had

identified in their workplace. There was a difference between what they planned and what they implemented. However, it is evident that the planning skills were carried through to planning the new project as is evidenced by the new plans the learner practitioners developed for the new group with which they worked.

Learner-practitioner 1 noted that she felt “like a teacher” because of what she had learnt about “education and learning”. This is viewed as a significant point because the course is linked to becoming an “environmental educator” within a particular work context.

The key pedagogies used to support scaffolding focused on guided reading, co-operative learning as a form of social learning, modelling, the use of open-ended questions as a way of encouraging deeper levels of thinking and the process of assessment through learning tasks, on-course tasks and workplace tasks to support learning.

4.3.3 Pedagogies that support Professional Reflection

Reflection and engaging learner-practitioners in thinking about their practices is an integral design feature of the curriculum of this course. The section below provides evidence across the three modules indicating that the course developers and facilitators made conscious and explicit efforts to teach in ways that developed the professional reflection of the learner-practitioners. Table 4.9 below summarises data relating to pedagogies that supported professional reflection as evidenced across the different documents, course observations and interviews with the learner-practitioners. The data in this section is grouped around key headings namely: pedagogical intentions supporting professional reflection in the National Diploma in EETDP; reflection as noted in course materials across all three modules; and the actualised process of reflection including the learner-practitioners’ experiences of pedagogy supporting professional reflection as represented in the course and the materials.

4.3.3.1 Pedagogical Intentions supporting Professional Reflection in the Course

A key intention of the course was for it to be relevant to learner-practitioners, but also to facilitate a process of learner-practitioners generating new practices through a process of discussion and learning from their peers. According to the course developers, the intention of developing reflection into the course was to help the learner-practitioners to learn from their own experience and to learn from each other. During my interview with one of the course materials developers, who co-developed the course curriculum, she had the following to say:

Finding a balance between knowledge, making it relevant, introducing new knowledge, making

it relevant within their new work context and creating opportunities to try new things out. I think those for me have been the underpinning ideas [in the development of this course]... And the reflection: introducing them to new knowledge, and kind of balancing that with contextualising to their workplaces, giving them the space to try ideas out, that could be relevant to their workplaces and reflecting on their own learning processes. With opportunities to discuss and learn from each other. We have not only asked them to reflect on their own work, but we have helped them reflect on their work and they reflected on their work with each other as well. (I, AM2, 294-299). Developing reflection into the materials of the course and the course itself was a deliberate decision as evidenced in the data.

4.3.3.2 Evidence of reflection in Course Materials

In this section I explore three key examples of pedagogy supporting professional reflection as presented across the course materials of the three selected modules. Initially in Table 4.6 (Appendix 7) I explored how reflection is supported through different pedagogical approaches. In Table 4.7, I explore how reflection has been encouraged through design features in the learner manuals. Table 4.8 helps to showcase how reflection has been designed into the learning tasks and the content of the course itself. This has been summarised in Table 4.6 (Appendix 7).

Through exploring the course materials, the concept of a reflective practitioner is an underlying principle throughout the course. At the first level, the practitioners are being asked to reflect on the content and the reading material of the course in relation to their own personal work experience. In Module 3 they are reflecting on their own personal practice and experience for example: Which of the methods have you used? Why did it work? (AM8).

In Module 6 the learner-practitioners are asked to “reflect on the feedback your group received”. The process of reflection in Module 6 is illuminating what learner-practitioners may not have been aware of; it is to provide exposure to other individuals’ experiences of the presentations. Learner-practitioners are encouraged through the course materials to engage in conversations and dialogue among the groups.

In Module 7 the approach used is to provide some criteria against which to reflect. The criteria for the reflecting on materials draw on research in the field e.g. “Hart, Kool and Jickling” (D 8) which supports learners engaging in a theoretical internal conversation. This approach helps the learner-practitioners to move beyond simply what they think. At this level, they reflect on their experiences and their practices, and then move to external conversations with their peers and other environmental educators to increase their awareness of elements of their own practice. Finally,

using a set of research principles that may help them to reflect at deeper levels, they introduce new ideas that they may not have considered before.

Two key design features have been observed in the materials to support reflection. The first design feature is the “Stop and Think” or the “Think about This” learning moments. The second is the explicit reference to a Journal as a learning tool where learner-practitioners are encouraged to maintain a learning journal to help document their thoughts. At the end of Module 6 Part 2, for example, a summary activity is provided for the learner-practitioners to reflect on their learning during the session: “Reflect on the learning process you have been through. Make notes in your Journal about the highlights (what you enjoyed most, gained most from) and low lights (what you found most difficult, challenging, what you disliked doing)” (D6).

Table 4.7: Design Features in the Course Materials Supporting Reflective Practice

Data Source	Design Feature 1	Design Feature 2
Extract from Course materials	 Think about this: Why is it useful to be able to describe a context? How can framing the context of a person, place or community be useful when dealing with adapting or developing learning programmes? (D2 – Learner Manual 3)	Throughout this part of the course, you will be encouraged to use your <u>Journal</u> as a learning tool. In particular, your journal entries will be an important source of information that you will use when you write your final report. In the future, when you come to develop other learning materials as part of your work, you may find it useful to read through your Journal to remind yourself of key steps, or points to watch out for, in the materials development process. (D4 – Learner Manual Module 6)
Reflective element of this pedagogical strategy	Provocations and Prompts – the questions and the strategy of using the ‘Think about This’ or the ‘Stop and Think’ disrupts the flow of the content and provides a prompt for the learner-practitioner towards supporting a critical perspective and enabling multiple perspectives to the same point.	The Journal could be used to help the learner-practitioners make sense of the course and to capture the key learning moments. The Journal would help the learners to frame their ideas, understandings and learning through reflecting on personal experience, and key events and incidents during the course.

The notion of a reflective practitioner is incorporated into the content of the course materials, thereby demonstrating its centrality in the course. The ‘Stop and Think’ boxes are there to prompt thought and engage the learner-practitioners to think carefully about their practice (D2, D4, D6). The ‘Stop and Think’ boxes help to mediate the text and create more of a conversation in the materials rather than merely provide the information. They can also be viewed as a pedagogical tool to support scaffolding because they lead the learner-practitioners through a process of deeper thinking as they reflect. The questions in the course materials are used differently across the modules. Initially they are used to prompt thought, to enable the learner-practitioners to have a starting point for their ideas. Questions are also used to help extend the learners’ thinking to illuminate aspects they may not have considered e.g. “What are the unstated goals? What is the

hidden curriculum?” (D8).

The Journal is considered a feature of the course materials to enable reflective practice. The intention behind the Journal was that it would provide a basis to synthesise the course knowledge and practice into something more tangible for the learner-practitioners and support their understanding and experiences in the course. The writing in the journal as represented in the course material is viewed as a ‘learning tool’ where disconnected areas of meaning come together and deeper meaning emerges.

In Module 7, an entire unit is allocated to using reflection as a tool to improve professional practice. Although in Module 7 the concept of reflection is explicit through the grounding of the “action learning cycle as a tool for reflection” in the content of the course (Learner Manual Module 7 - D8), in Modules 3 and 6 it is more implicit through asking learner-practitioners to reflect on their current practice.

Module 7 helps learner-practitioners in a more explicit way to explore the programmes and practices they developed on the course for the workplace. The learner-practitioner is encouraged to identify the reasons for reflecting on practice, working within the ‘Action Learning Cycle’ as a reflection framework and tool and then looking at different tools to facilitate reflection. Applying the appropriate tools follows (‘Checklist’) to help with the reflection process for a programme they have developed. The data presented below helps to ground the discussions that follow.

Table 4.8: Extract from Learner Manual for Module 7 showcasing opportunities for reflection

Module 7		
Content	Learning Activity 8	Learning Activity 9
THE ACTION LEARNING CYCLE AS A REFLECTION TOOL	Action Learning is learning from our experience, learning from our actions and then applying these learning back into our next experience or our next action. It is about ongoing cycles of improved learning and doing where we draw out and use our learning and experiences to plan better and improve our practice ... (D8) Learning Tasks LEARNING ACTIVITY 8: USING THE ACTION LEARNING CYCLE TO REFLECT ON AN ENVIRONMENTAL PROGRAMME Think of an environmental programme you have recently implemented. Use the guiding questions below to help draw out learnings from the programme ... (D8)	LEARNING ACTIVITY 9: REFLECTION CHECKLIST Develop a checklist: Develop a framework for a check-list that will help you reflect on your lessons. Ensure your check-list enables you to reflect on the strengths and weaknesses of your planning, preparation, your facilitation and your assessment processes ... (D8) Making recommendations from the lessons learnt ... Remember your check-list must help you to make future recommendations on how you can improve your lessons. Recommendations are actions to consider as a result of doing an evaluation/reflection. Recommendations can strengthen reflection capabilities when they react to what users want to know and provide useful, tangible information that can be easily implemented. What type of recommendations can you make to improve your lesson planning and implementation process? When drawing up your recommendations, ensure you try to cover the following aspects: planning processes preparation of your learning environment, facilitation processes assessment processes (D8)

The table above indicates extracts from the course materials of Module 7 which focus on reflection as an integral pedagogical strategy for understanding practice and identifying better ways of working. The data in Table 4.8 indicate the process of encouraging learner-practitioners to develop a set of criteria or broad ideas to help them to reflect on different aspects of their planned programmes. Some areas for reflection are suggested as a starting point to help the learner-practitioners, but other areas are left to the learner-practitioners to expand. Questions are provided to stimulate ideas from the learner-practitioners to help them start thinking about a particular area.

Learner-practitioners are encouraged to look at workplace processes more critically, as well as their roles in planning and facilitating the processes. A fundamental aspect that emerges as indicated by the data in Table 4.8 above is that the learner-practitioners are encouraged to make recommendations for new practices. Whilst they deconstruct their practices, they are encouraged to provide ideas to construct new practices as is shown by the question “What type of recommendations can you make to improve your lesson planning and implementation process?” (Learner Manual Module 7: D8).

Reflection processes that encourage learner-practitioners to become more reflective on their practices are incorporated into the workplace tasks. As part of the Portfolio of Evidence Workplace task, the learner-practitioners are asked to reflect on their “performance as an Environmental Education Practitioner” (Portfolio of Evidence: Module 7): Below is an extract from Module 7 PoE.

Part C: Reflection of Performance as an EE practitioner

Now that you have implemented the environmental learning programme and a formal evaluation was carried out, you need to think about how you will use this evaluation, together with your own reflection of the process.

- Include the tool that you have used for the reflection process. You may have also asked a colleague to observe your performance, so you may also include this tool.
- Using the tools that you used for the reflection process, compile a 4-page report that highlights what you thought about the process and what you would recommend for the future of this programme. The report should cover the following aspects... (D10)

The reflection process of the workplace task was intended to encourage the learner-practitioners to think critically about their practice. The learner-practitioners are encouraged to use a peer or a colleague in the workplace to help provide feedback to help the learner-practitioners understand their practices from the perspective of another person. It is assumed that learner-practitioners, through engaging with a peer’s observation, would be able to deconstruct their own performance

and become more conscious of the work-based activities.

The intention in compiling the report further helps the learner-practitioners to clarify and record the ideas they have developed. The writing process enables them to make sense of the world in a more concrete way. The section which follows will help to provide some insight into the manner in which reflection was used on the course.

In the section on reflection in the course material, I have attempted to present the data on how the concept was planned in the design of the course and how it is embedded in the materials. In the next section I will explore how this concept of reflection has unfolded through the course and the pedagogies used to support the process.

4.3.3.3 The Actualised Process of Reflection on the Course

In this section I will explore how the process of reflection unfolded and the key pedagogies used to support the reflection. In this section the critical role of dialogical questions will be stressed. Co-operative pedagogical strategies fostering dialogue and dissonance will be discussed, together with the use of narratives through the use of photographs as pedagogies supporting reflection.

During the course, questions were posed to the learner-practitioners by the facilitators as observed during the facilitation session of Module 6.

Facilitator then puts up a key question on a card “How are the materials we identified supporting us to achieve our outcomes of learning for environmental action?” She asks the group to take a few minutes and have a meeting with them and to think about that question. She gives them five minutes to think about this question. (O1)

The facilitator used questions as a basis for the learner-practitioners to reflect on decisions and choices they had made and encouraged them to engage in internal conversation “have a meeting with you” that would help the participants to clarify their ideas and allow them the space to think about their response.

A second strategy used to encourage reflection is the use of a peer or colleague. This strategy as noted in the Facilitator report (D10) is used to help the learner-practitioners to learn from colleagues. The concept of a peer providing insight appears through many aspects of the documents and through the processes the learner-practitioners undertake. In Module 3 the learner-practitioners had to present a learning programme that they had prepared to a group of students during the course sessions. The colleagues, facilitators and fellow learner-practitioners helped to

provide insight on aspects they should perhaps consider and focus on areas where they did well or that needed more work.

During the second day of Module 6 and throughout the course of that week, the facilitator took photographs of the learners engaging in different learning processes. The facilitator then asked the participants to narrate the photographs and explain “what you were doing and how you think you were learning and what you think helped you learn” (AM3). The photographs were used as a basis of the reflection and recapping of the process from the day before.

In Module 6 the learner-practitioners had to present their adapted learning and teaching support materials to the group and then engage in dialogue with the group who provided feedback. There is an underlying assumption that we learn from each other and others help us see aspects or areas for development we may not be able to see ourselves. The data below emerged in the observation of the facilitation of Module 6.

They group themselves in pairs and present their LTSM to each other. Thereafter they discuss, question each other and then assess the resource and add comments and make suggestions. Good discussion happens between the participants ...

After that the facilitator asks them to report back on the process and the LTSM.

Learner-practitioner 2 notes that how one is going to present the poster was a point that emerged for her. She said that they could explain their poster to each other, but how they were going to use it they found difficult. (O1)

The data above illustrates the process of reviewing each other’s work as a way of illuminating areas which the learner-practitioners may not have considered. Critical feedback provided by the group on the information presented by learner-practitioners appeared to support the learner-practitioners’ ability and confidence to justify a position and to be able to clarify it.

In Module 6, learner-practitioners were encouraged to maintain a reflective journal. However, this aspect was not formally enforced throughout the course and as a result, none of the learners maintained a journal. Aspects of reflection were built into every task, however, which meant that learner-practitioners always had to think critically about their thoughts and actions.

The critical reflection appears to have added value to Learner-practitioner 1’s experience of the course because she felt that it helped her to ask herself questions about the purpose of their work. This was noted when she comments during the interview that she asks herself the question of “Are we having an impact on the community or are we just doing for the sake of doing because we government and we need to also submit a report that in 2009 we spent our budget and we did this number of clean up campaigns?” (AM8, 104-107). Learner-practitioner 1 was beginning to

question the impact of her work and shows understanding about whether her work is making a difference in people's lives. She noted that the course encourages "lifelong learning" as an approach and it is adding value in encouraging her to think deeply which is evident when she commented "you know back then we would learn theory and then forget some of the things. But here it is different. You talk about the real thing ... you put yourself into this in whatever you do..." (AM8, 415-419). The concept of 'lifelong learning' has emerged as a fundamental realisation from the constant reflective processes engaged in by the learner-practitioners.

Thinking critically about workplace practices and purposes of her intended actions are aspects that Learner-practitioner 1 found herself considering. She is questioning herself and the reasons for things that she engages in. She appears to be searching for meaning in her work. The course is actively engaging her in finding and locating herself in every aspect of the discussions and practices as highlighted by her comment of "put yourself into this in whatever you do".

Learner-practitioner 1 found the course challenging her thinking. She felt that the dialogue and reflecting on her thoughts and then having to justify what she thought, were important aspects of creating an awareness of what she was doing. This was evident when Learner-practitioner 1 noted:

Learner-practitioner 1: The planning. The actual planning. The whole, the group management, the different types of groups and how to handle them. That for me cannot be separated. Because they run concurrently. And this course that we doing, there is no at the back of my mind. You have to show what I'm talking about. You can't say at the back of my mind separate sheet where you write your thoughts. That is your third piece evidence. That while I was doing this, these were the thoughts that were coming.

Learner-practitioner 1: Ja, these are like reflective thinking. Though sometimes I happen to go through my notes, but if I go through that sheets/ information then I am able to find them.

Learner-practitioner 1 has found the reflective processes useful to help stimulate thoughts later on when she was reading through her notes. Actively including reflective processes into the course and asking learner-practitioners to justify and explain what they are thinking constantly helped her to consider her actions. According to Learner-practitioner 1, the reflective process has enabled her to incorporate elements of the course into her way of thinking e.g. "there is no at the back of my mind" (I3). This highlights a framing of awareness of her work, highlighting a consciousness, of being aware, of what she is doing.

Learner-practitioner 2 noted "it is critical thinking... we always have to be on top of things, so can't just come in and relax..." (I2). Her experience of the course indicates that she always had to be

thinking critically and having to justify and reason about what she was doing. Learner-practitioner 2's comments indicate her feeling that as a learner-practitioner, she had to be actively engaged in all aspects of what they were involved in and had to apply her "thinking skills" to every aspect. Learner-practitioner 2 further elaborated on her experience of the pedagogy of questioning by noting:

...some of the questions that both of you pose, are the types of questions that force us to think, push us to do something, push us to think beyond whatever we are thinking, and we would go an extra mile in terms of our work and our thinking. (I2)

In the data above, it is noted that the questioning techniques used help the learner-practitioners to extend their thinking beyond their current practice. The questioning engages the learner-practitioners to become reflective about what they are doing. However, this level of reflection poses challenges and tensions for the learner-practitioners as they begin to see the need for new practices to emerge in their workplaces. Learner-practitioner 2, for example, noted:

Now what I do at work I am conscious of how I do things and why I am doing them for instance... but it is a bit challenging because some of things we are supposed to do, now I wouldn't want to do them, or do them in the way they want us to do them. Or I would want to know reasons for everything I do... (I2)

The level of reflective thinking that Learner-practitioner 1 and Learner-practitioner 2 have engaged in has enabled them to be critical about what they do, as shown in the discussion above. They have begun to deconstruct, analyse and look for purpose and meaning in their professional practices and it appears that the course's pedagogy of reading (case studies and research), using questions and co-operative engagement has been instrumental in achieving that development.

Tensions arise for learner-practitioners because they still work in an institutional context where the mandates are determined from higher structures. An example of the tension experienced in the institutional context by Learner-practitioner 2 occurred after she completed Module 6 on Learning and Teaching Support Materials development. She was given a brochure in her workplace context to comment on for a community group in Thembisa. Her response is shown below:

...Because in just seeing the brochure without even reading the text I could just see that the community for which we were developing it for, it was too much information, it was too clustered, what are we trying to say to the community, and will it be looking at the programme and the campaign. Do we really need flyers, you know? Some of the things I could immediately pick up. The content as well, was too much content on the flyer. Still not clear. But here, I was told not to comment if I had nothing good to say. (I2)

While Learner-practitioner 2 was reflecting on her practice, it was difficult for her to provide input regarding the brochure. The quotation above suggests that Learner-practitioner 2 was making strong links between what she has learned about education on the course (in particular in relation to the use of learning support materials) and the work she is doing in the Metropolitan Municipality. However, institutional dynamics were seen to create some barriers to her actually implementing her new learning at work.

4.3.4. Context-Based Learning Approaches

4.3.4.1 Introduction

This section will explore how context-based learning approaches were used on the course and will foreground the learner-practitioners' experiences of this approach. Data will be presented relating to the type of pedagogy used on the course to support context-based learning.

The approach to context-based learning in the National Diploma in EETDP through Delta Environmental Centre was shaped through the interactions on the course between the learner-practitioners themselves, between learner-practitioners and the facilitators and through the learning activities, work-based assignments, reflection on practices and experiential learning opportunities. The experiences were mediated through workplace assignments, the use of questions, discussions and dialogue and the use of appropriate learning and teaching support materials. The data foregrounds the processes used on the course and how it unfolded and was experienced by the learner-practitioners. The section that follows is an introduction to the design features and the intention of the course linked to context based pedagogy.

4.3.4.2 Pedagogical Intentions of Context-Based Learning Approaches in the Course

An analysis of the course materials reveals that the concept of context is evident across all modules sampled and reviewed. I will present the unfolding of the context-based learning approaches initially as a vignette (see section 4.3.4.4) to highlight the process. Thereafter I discuss these aspects in relation to their apparent relevance to Learner-practitioner 1's and Learner-practitioner 2's professional contexts. Within the scope of this study and its interest in the relationship between course pedagogy and work-based learning, the data presented in this section is distilled from observation notes, interview transcripts and document analyses. Data relevant to context-based learning and its associated pedagogies was analysed and synthesised into Analytical Memos (see Appendix 4).

4.3.4.3. Context-Based Learning Approaches as indicated in Course Materials

Module 3 acknowledges that the learner-practitioner brings a vast array of experiences to the learning situation and the initial intention of the course is to ensure that learners bring to the surface the experiences and the socio-cultural contexts that have shaped them. This is evident in the following extract from the learner manual for Module 3:

Although we are all affected by these ideas, beliefs and material changes, we are affected differently, depending on whom we are, the things we believe, where we live, the beliefs of those who live close to us and many other factor...

Learner-practitioners were asked to reconsider the context map of themselves and their experiences that they developed in Module 2. The key categories learner-practitioners had to discuss relating to their context maps were:

- Their social environment
- Their cultural environment
- Work environment
- Biophysical environment
- Age, gender and social position
- Education
- Family

The intention of this activity was to acknowledge the learner-practitioner's prior knowledge and experiences which would influence how they interact and how they see both the course and the nature of the environmental issues and risks encountered. The personal context maps are a medium to understand that learning does not happen in isolation, but that "learning is shaped by context and culture and the ways in which it is mediated in a learning situation" (Vygotsky, 1978).

Understanding that people come to a learning situation from a context that is shaped by social and cultural interactions is at the heart of context-based pedagogy. The intention in the course design was to understand the socio-cultural experiences of the learner-practitioners because the course developers felt that it would influence how they would understand, respond to and apply the learning situations they would encounter on the course.

Activities in the course materials which bring learners' experiences to the surface can be found in the design of the course materials. In Table 4.9 below, examples from the manuals are provided to show how the materials reveal learners' experiences.

Table 4.9: Analysis of Extracts from Course Materials indicating Pedagogical Processes supporting Context-Based Approaches

Category	Module 3	Module 6	Module 7
Extract from course materials	LEARNING TASK 3: How you were taught at school. Can you think of a situation where you were treated as if you needed to be filled up with information? Think back to when you were a learner, what role did you play and what was the role of your teacher? Do you remember how your classroom was organised? How much discussion went on between you and your teacher and /or amongst the learners? In any recent educational activity you have planned how has the pattern changed? Do you encourage group members to find answers or solutions on their own? (D2)	LEARNING TASK ACTIVITY 4: Sources of learning materials Sharing information about sources of learning materials. Have a brainstorming session. Share your own experience of accessing materials. (D5)	LEARNING TASK Look in your purse, pocket or bag and consider the items you see. Now, select one item that holds special meaning for you and put it on the table in front of you. Develop a brief explanation of why that particular item provides an important insight about you. Share it with a person next to you. What you have just done is to identify an artefact – an item that represents you. And your explanations are your rationale for selecting this artefact.
Purpose of the task / activity	The underlying purpose of the activity above in Modules 3 and 6 was to bring to the surface learner practitioners' contextually relevant prior experience to provide a platform for the future discussion on learning. The role of the facilitator would be to use the experience of the participants from real-life situations for example "how you were taught in school" to facilitate learning and to assist learner-practitioners to be creative, critical thinkers in an open environment. The real scenarios that the learner-practitioners would have provided during the discussion would assist with the complexity of cognitive dissonance. Scenarios which the learners provide from their own social experience are realistic and relevant. The facilitator's role as contained in the intentions of the materials was to guide, question, challenge and provide a platform for the learner-practitioners to interrogate their personal experiences to highlight and draw new learning. The brainstorming process was intended to be group processes of synthesising contextually relevant experiences.		The aspect of context that is foregrounded is the individual and the personal artefacts that make up the person. The purpose of the activity is to gain an understanding that people all emerge from a particular context and that everyone has something that makes them unique.
Pedagogical approach	Group discussion viewed as a powerful enhancer of learning and drawing on contextually relevant social experiences. Co-operative learning and a group process provide opportunities for contextually based scenarios to emerge from the experiences of the group members.		The pedagogical approach foregrounds initially a facilitator led reflective process through the use of open-ended and opinion based questions mediated through co-operative interaction.

The data in Table 4.9 above highlights the way in which the learner-practitioners are encouraged to locate themselves in the learning experience. They are asked to reflect on a situation or a context they may have encountered that has contributed to their learning in some way. This approach signifies a valuing of the learner-practitioners' experience and an acknowledgement that they have a valuable input to make in the learning process. The use of the question provides a guide to the learner and a basis of something the facilitator could support in the learning process.

The data in Table 4.9 further illustrates the attempt of the design of the course to ensure contextual relevance for the learner-practitioner. Through locating themselves in the learning experience, it is embedding the learner-practitioners in a context that has contributed to their personal development. Reference to a 'past' experience implies a context from which the learner has emerged. Through the analysis of the materials on the course, it also appears to highlight a scaffolding process relating to context that has been built into the design. Whilst learner-practitioners' experiences are acknowledged as part of the learning process, it also helps to mirror some of the content of the course. To illustrate this point the data below is provided.

The data in Table 4.10 (Appendix 8) illustrates that while the course aims to understand the context of the learner-practitioners, it is also trying to enable learner-practitioners to understand the importance of knowing the context of the people with whom they will work educationally as well as understanding the nature and context of the environmental issues they identify. The data in Table 4.10 (Appendix 8) illustrates the use of open-ended questions, and the deconstruction of the beliefs, social and cultural practices, biophysical and political dimensions of the people and the environmental issues as critical aspects in understanding the people and the issues. The pedagogy of the whole course was supported by a problem-based contextually-relevant issue which as noted in the data in Table 4.10 (Appendix 8) "In unit one you identified an environmental issue or risk. Thereafter you developed a contextual profile to try and understand the issue". The different workplace-based portfolio tasks were in support of the implementation of an action towards addressing the environmental issue that was identified in Module 1.

The analysis and study of the Portfolio of Evidence (POE) tasks for Modules 3, 6 and 7 indicate an attempt on the part of the material developers to contextualise the learning activities to the workplace practices of the learner-practitioners through workplace-based tasks. Learner-practitioners are constantly requested to refer to the context in which they work when completing the workplace-based tasks. The workplace-based tasks in each of the Modules, 3, 6 and 7 require learner-practitioners to do design an original environmental learning programme, develop appropriate learning and support materials, to implement the learning programme and show evidence of implementation process (Appendix 9).

As noted at the start of this section, the intention of the course is to contextualise the learning process to the workplace practice. Therefore, all portfolio tasks include an on-course task to provide a scaffold for the learners to assist them to complete a task relevant to their workplace. Look at section 4.3.1.3 for the discussion on scaffolding. The workplace-based portfolio tasks require learner-practitioners to complete them in the workplace related to an environmental issue or risk they have identified. The workplace-based tasks are contextual in nature and draw the learning back into the learners' own workplace practice. The workplace-based tasks follow an action-research process as discussed in Table 4.11 (Appendix 9) that is based on addressing a contextually relevant environmental issue for a community that is relevant to the learner-practitioners' work.

4.3.4.4 Actual Evidence of Context-Based Learning Approaches through Course Processes

During the course, I observed examples of context-based learning approaches. These approaches took the form of contextualisation at the level of:

- the learner-practitioners' lives; and
- the workplace and the groups worked with professionally.

Below, I provide a vignette to illustrate the how the context-based pedagogies supported learning.

Vignette One: Module 6: Course Pedagogies in a Process of Context-based Learning;

Exploring people's needs when learning

The facilitator notes that "helping people to learn is a key part of our role". She notes that people are different and have different learning styles. "We work with the idea that people are different because we all have a social, political, cultural, historical, ethical context from which we emerge" Learner-practitioners given time to reflect.

... The facilitator asks group to individually reflect on how inclusive we are? Reflect on their own practice. Worksheet provided on inclusion. .Worksheet had key questions to guide the reflection. Questions were fairly open-ended ... The facilitator introduced the worksheet and the questions and then provided an opportunity for participants to complete the worksheet ... The facilitator and the learner- practitioners discuss in their group to look at their reflection highlighting five inclusion issues they need to explore further within their organisations. The facilitator poses the question of whether the participants think their organisation considers inclusion and to provide examples from the workplace. One learner-practitioner notes that they are trying in theory but not in practice.

A discussion emerges with learner practitioners noting ... "they primarily use English, have no disability access ... LTSM produced is always general ... they don't consider communities need for access to public transport ... vegetarians are not considered at the functions adequately ..."

Facilitator then uses questions to probe further, e.g. asked participants “What is inclusion from your understanding?”

Facilitator used a diagram to show that no two people are alike. Flipchart was used to further explore the diagram. Facilitator used four key points to unpack diagram. Used a PowerPoint diagram. Thereafter the facilitator asked participants what they understood by the word ‘barrier’ ... Discussion amongst the group. Understanding of the idea of a barrier was varied with some noting it was an “obstacle”.

Next learning task involved a practical example of a programme that was designed for the sensory trail at Delta Environmental Centre. Participants were to use the worksheet provided and do the activity in the garden. The garden had boards in Braille and was developed by Rob Filmer.



Figure 4.3: Experiential Learning in the Sensory Garden (DEC)

Participants given clues to look for and to move from one spot to the next. She also gave the participants some background into the trail. Noted that it was designed to stimulate the senses. Participants need to go from one point to the next and answer the question on the worksheet. Boards in the garden are in Braille. As participants move around the garden they note that it is difficult to read Braille. Participants smell the compost. They then move on to smell and feel the wild mint and the sage ...

Participants taken to a particular spot in the garden and asked to listen to the sounds and then to look around without a sound and note what they see.

Facilitator then poses questions... learner-practitioners asked to identify possible barriers for people exploring the sensory trail. Learner-practitioners note that it would be the gradient of the path ... or the resources provided e.g. the type of worksheet or books... The facilitator asks student if they can think back to something that was a barrier to them when they were learning. Respondents noted “lazy teacher”, “bombastic language”, “personal attacks on them by educators” and “personal resources at college”. The learner-practitioners then explained some of the personal incidents of these types of barriers on their lives. Discussion involved some barriers existing inside

the person e.g. health.

Facilitator spoke about systemic barriers using examples the participants had provided from their experience. Drew the learners back to their own programmes and asked them to think of their context of their learning programme and what the needs of the people are with whom they will be working. Group was referred to notes on barriers in the manual. Then asked to complete task on page 13.

The group were then asked to design a programme for water week for a Magaliesberg community with children, parents, elders, youth etc. Provide ideas on how they would cater for people's needs. Plan a two-hour meeting. Look at the task. Facilitator asked them to develop a workshop plan and to capture on the flipchart.



Figure 4.4: Discussion amongst learner-practitioners

Participants engaged in a group discussion to arrive at a strategy to do the task. Learner-practitioners noted that it is difficult to accommodate all these participants in the same workshop e.g. children, teenagers, community etc. Felt they needed to clarify the issue of children and toddlers. Considerable discussion in the group. Felt they need to clarify the issue of the Magalies community. Learner-practitioners felt they also needed to clarify the task. Felt they should identify the issues of water that would be relevant to this particular community. For example they finally decided to focus on clean water. Substantial discussion and dialogue between the members in the group. Facilitator asked the groups to do their presentations. Group one asked to present their task. Participants explained their programme. Programme consisted of a ball game for ice-breaker, water cycle chart used and a card game to provide feedback. Facilitator then posed questions to the group. Noted that the chart was chosen because it accommodates everyone.

Facilitator asked the group “How do you accommodate people experiencing contextual barriers of not having water?”

Learner-practitioner 2 responded and explained. Facilitator then asked the group to think of the icebreaker and to note how they will deal with the cultural barriers.

(O1- observation of Module 6)

The example in the vignette has been used to highlight the process of a context-based learning approach and to identify how it unfolded in the course. The facilitator drew on the learners' prior knowledge and experience by asking them to provide examples from their own experiences of "barriers that you encountered in your own life that have posed challenges to your learning" (O1). This seemed to have generated considerable discussion and the learner-practitioners readily provided examples such as having lazy teachers or inadequate access to resources. The learner-practitioners appeared to have a sense of appreciation and felt valued. In an informal discussion with Learner-practitioner 1 she then went on to tell a story of a teacher who "told me ... I would not be able to do anything. He always picked on me and made me feel like nothing". This approach seemed to have relevance to their personal lives and they welcomed the opportunity to discuss their own experiences.

Based on the vignette, the following aspects relating to pedagogy were observed, namely dialogue between the facilitator and the learners and amongst the learners themselves. Working in groups and completing the tasks in groups provided a supportive environment for the unfolding of the learning experience. A further pedagogy observed in the vignette was the experiential learning moment when the learner-practitioners engaged in an activity in the sensory garden. The learning in the garden helped to bridge the gap between the theoretical learning in the classroom and the practical observations and interactions in the garden. The context-based learning was grounded in experiential practical experiences. The students had been out to a relevant learning site which demonstrated the principles and highlighted the points that were being discussed of "barriers to learning" within a real situation.

Finally the concept of context-based learning was illustrated on the course at the level of using contexts similar to work practices e.g. by asking learner practitioners to develop a Water Week programme for a community in Magaliesberg. This is an example of an attempt to place the learning in the workplace context and link it to the practices in which the learner-practitioners engage in terms of community *indabas* [meetings]. The pedagogy used was strongly underpinned by questions, discussions, and the use of relevant supporting materials e.g. worksheets with questions and the environment in which the learning has taken place, for example, in the context of the "sensory garden".

It appears that, through the pedagogies described in the vignette one, Learner-practitioner 1 came to be equipped with insights and skills into contextualised learning which she could apply to subsequent tasks. The contextualisation occurred in the form of Learner-practitioner 1's individual

learning and in the form of her ability to plan context-relevant learning programmes for learners in her work setting. This two-level contextualisation is evidenced, for example, in Learner-practitioner 1's comments in Module 6 when asked to discuss how she would choose learning materials for the group:

By knowing the group identified, knowing their background and prior knowledge that they bring in the workshop, knowing their learning styles considering their special needs, the language usage ..., barriers that they might have contextual and cultural ..., while designing your learning programme types of groups should be borne in mind and how are you going to handle that group.

Other evidence across the three modules similarly suggests that the course pedagogy helped Learner-practitioner 2 and Learner-practitioner 1 to make connections between the theoretical content of the course and their own work contexts. For example, in her Portfolio Task for Module 7, Learner-practitioner 2 wrote:

Learners with special needs were identified prior to the commencement of the programme which the barriers was mainly language, therefore African languages were mainly used during the presentation. The learning material was designed to cater for people with different needs, it included more pictures and the text was made bigger for every to see. (Portfolio task 7 – D 28)

In another example, in her portfolio task Learner-practitioner 1 linked it to the task of the Magaliesberg community and noted that while planning the programme, she had to think about culture since the audience was made up of older women who were unemployed and could not read or write. In addressing this challenge she used a language that they understood better. She code switched again to cater for business people and for learners. Learner-practitioner 1 also had to consider learners and the community with special needs (mainly disabled). She noted that for people who could not read, visual materials would be best. (POE task Mod 6, D27).

The data suggests that learner-practitioners demonstrated an understanding of the importance of knowing the people with whom they would be working and understanding their context. Emerging from the data is the understanding by the learner-practitioners that it is important to recognise that people come to the course already having an understanding of the issues and that it is important to recognise this and use it as an opportunity within the training. This understanding by Learner-practitioner 1 (that it is important to work with a group and understand them) becomes disrupted and becomes a source of tension for her. Learner-practitioner 1 planned her programme for a group of reclaimers next to the informal settlement. However, due to the changes in her job and moving

into the events management section, this group now fell outside of her work. This posed problems when she tried to complete her portfolio task.

Learner-practitioner 1 then identified a group with whom she was currently working, two schools from the Ratanda area. She kept to the main focus of her job and tried to use the skills she had learnt to inform the planning processes for the Learners' Summer Camp for the sustainable resource management directorate. She noted in her portfolio task in Module 7 (D27) that the "programme of the day was put together by Learner-practitioner 1 and Nandi. I advised on the flow of the programme ... I also designed the project plan to show us where we are, roles and responsibilities of people having tasks, it also covered the due dates, action and progress".

4.3.4.5 Pedagogies used to Support Context-Based Learning Approaches

Four key pedagogies have been identified that were used on the course to support context-based learning approaches: (a) dialogue, (b) the use of real situations, (c) the use of questions, and (d) the use of on-course and work-based portfolio tasks. These were identified as the most common pedagogies used. I will briefly explain each of these pedagogies and how they were used on the course across all three modules of learning and reflect on experiences from using the identified pedagogy.

a) Dialogue: Dialogue among the learner-practitioners themselves; with the facilitators; and with "more knowledgeable others" (Vygotsky, 1978), was a crucial aspect of mediation in the learning processes of Modules 3, 6 and 7. During my observations of Module 6, I noted the following:

Through discussion they look at criteria they set yesterday and make suggestions for today. Thereafter they use the criteria and look at each other's work. They group themselves in pairs and present their LTSM to each other. Thereafter they discuss, question each other and then assess the resource and add comments and make suggestions. Good discussion happens between the participants. (O1), AM3- Appendix 4

Through interacting and discussing with each other, the learner-practitioners learned about each other and the learning and teaching support materials they developed. The comments and suggestions provide useful insight into how the materials could be adjusted or changed and into the strength of the materials.

Module 6 focused on conducting interviews with materials developers who engaged in developing Learning and Teaching Support Materials that are used in the learner-practitioners' work contexts (O1). The learner-practitioners actively engaged in discussion and dialogue with the materials developers. The data below highlights the idea of a conversation and a dialogue between the

materials developer and the students “the session was run more as a dialogue session or having a conversation with her, rather than her being the expert” (O1). AM3- Appendix 4

During Module 6 learner-practitioners were engaged in developing a draft of the LTSM they would use to implement their learning programme. They had to share it with each other and gain critical comment from their peers. Learner-practitioner 2 noted that “how one is going to present the poster” was a point that emerged for her. She said that they could explain their poster to each other, but how they were going to use it they found difficult (O1). AM3- Appendix 4

The dialogue between the learner-practitioners enabled her to think more deeply about how she was going to use her poster. The above statement implies that the dialogue enabled them to realise the potential limitation of their approaches and to think about what they had not considered. Learner-practitioner 1 also discussed a similar point, explaining what she picked up from Dathi’s resource and that her “concern was about language” and therefore she thinks there is a need to have something to support the poster (O1). AM3- Appendix 4

The data supports the idea that engaging in dialogue has enabled the learner-practitioners to deliberate, share experiences and to support each other to find ways of improving their practice. The data also indicates Learner-practitioner 1’s level of engagement in critically thinking about her colleague’s LTSM. She has considered how language could support learning for a particular group.

It is also important to note that through the process of dialogue between the facilitator and the learner-practitioner, there is an implied process of the learner-practitioner clarifying how the contents of the course would become relevant in her work context e.g. “the structuring of agreements or sending the specs” (O1). The role of the facilitator is to help the learner find possibilities and opportunities through engaging in dialogue that she may not have considered. Learner-practitioner 1 talked about being “more critical about resources and how it is used for a particular group’ (O1). She is still constrained by terminology in her current job and by the structures in which she works. Learner-practitioner 1 noted that it would be difficult for her now because she has changed jobs and is no longer doing capacity building. She is not involved directly in communities, but she feels she can use past experience indirectly e.g. extension officers. The facilitator asked her if she was not responsible for marketing, brochures and part of communication and awareness and informing the type of promotional material she needs. Learner-practitioner 1 noted that in a way she was, but sometimes they have structured agreements. She said maybe it could be used when structuring the agreement or sending the specs. Learner-practitioner 1 indicated that to talk about LTSM in her current work was difficult, but if you referred to it as promotional material it would be more acceptable.

She highlighted that in her current job LTSMs would be called ‘promotional material’ and it would not be accepted if it was called anything else. This statement also has relevance as to how the terminology needs to speak directly to the context of the job. If Learner-practitioner 1 were still in her job in the education and awareness directorate, this terminology may have been acceptable, but when she moved into events planning, the concept of LTSMs posed new tensions because it was not in line with the terminology of her work. The process of engaging in dialogue is viewed by the learner-practitioners as developing “critical thinking skills” (I1). The dialogue between me as the facilitator and Learner practitioner 1 helped to clarify the relationship between the materials and her work context.

b) Real Situations: Throughout the modules, pedagogies drew on real contexts to support learning processes. In Module 3, the learners engaged in a process of working and observing an environmental programme for a City Year group of students at Delta Environmental Centre (D11, D16) as has been described and discussed in Section 4.3.1.4. This detailed the pedagogy supporting scaffolding. The learner-practitioners engaged in real activities when they were involved in the water-quality testing and catchment observation in Module 3.

When exploring the design of learning programmes for learners with special needs in Module 6, the sensory garden at Delta Environmental Centre was used as an example to prompt thoughts and ideas (O1). The learners engaged in looking at the boards written in Braille and experienced heightened sensory perception activities in the garden as discussed in the vignette.

Module 7 involved a person with experience of working in a local government setting (a similar context to the learners) conducting a session on financial management of an environmental project in a government context. This session involved learners looking at how to track the project budget against their operational or implementation plans (D13). Similarly, the report-writing component of Module 7 was conducted through analysing reports that learner-practitioners had written together with an individual who had had a considerable amount of experience in report writing.

Emanating from the analysis of the data it is observed that course participants have noted that the course involves “lifelong learning” (I3). Learner-practitioner 1 noted that: “...back then we would learn theory and then forget some of the things. But here [in the course] it is different. You talk about the real thing ... You put yourself into this, in whatever you do” (I3).

Practical, experiential learning experiences grounded in real situations and contexts contribute towards learner-practitioners’ sense of responsibility to change their professional practices. Learner-practitioner 1, for example, reflected on her first visit to the informal settlement, as part of her work-

based portfolio task for Module 1: “the very first time I went there, it hit me. I can’t even describe it. I became emotional about the people in a way that I can’t even describe it ... It was a wakeup call” (I3). The field trip had made an impression on her and she used the informal settlement community group as the basis for all the tasks that she completed on the course. Learner-practitioner 1 designed a waste management programme for the community of the informal settlement as her portfolio task for Modules 3 and 6, and the learning support material that she adapted was for this community (D19, D20, and D21).

Interviewing the City Year students who came to the Delta Environmental Centre and getting to know the students, helped Learner-practitioner 2 and Learner-practitioner 1 to understand the importance of the context of a group they are working with. Both learner-practitioners pointed out that “what stood out was that I understood my target group and their context, which they are and their background ...” (FGI 1). Both learner-practitioners took the lessons of understanding the context of the group into their workplace practice. Learner-practitioner 1 noted that she used it to understand the informal settlement group and she realised that “language and dress code” would be important aspects she would need to consider in relation to her group. (FGI 1) Learner-practitioner 2 indicated that after she had done the activity she had to “go back and think from the meeting I had with the teachers... What were their needs? What did they know? What they wanted to improve upon?” (FGI 1). The use of real situations helped learner-practitioners develop a better understanding of the context of the group with which they work.

A central component of the process of dialogue and of using real situations for learning is the use of questions. The next section will outline the learner-practitioner’s experience of the use of questions.

c) Questions: Questions were used at multiple levels to support learning in Modules 3, 6 and 7, ranging from questions to prompt ideas, stimulate deeper thinking about professional practice, clarify thinking processes about the context of the learning group and the context of the learning programme, and so on (D2). Tables 4.3 – 4.10 all highlight the use of questions to prompt learners in working towards learning tasks in Modules 3, 6 and 7.

Questions were commonly used by the facilitator to help probe and extend learners-practitioners’ thinking. For example, during Module 6, I noted the following in my observation schedule: “Facilitator asks group to individually reflect on how inclusive they are. Reflect on their own practice. Handout provided on inclusion. Hand out had key questions to guide the reflection. Questions were fairly open-ended.” (O1).

The role of the facilitator in using questions to contextualise the content for the learners was

important. While some aspects of the learning materials are fairly generic, the facilitators' role in questioning, clarifying and probing helped learners to bring the process back to their own practice. The use of questions by the facilitator or the questions in the learning tasks, or in the manuals has been viewed by the learner-practitioners as developing "critical thinking". (FGI 1) The use of questions helped the learner-practitioners to think deeply about their "target group" (I3).

The use of questions in the portfolio tasks generated discussion, debate and dialogue in the workplace. Asking the learner-practitioners to explain the difference between a learning aid and a LTSM "started this discussion at the office with the learners... and we started this debate" (FGI 1).

d) On-course and workplace-based portfolio tasks: Table 4.11 (Appendix 9) indicates the work-based tasks that have been set across the three modules. The workplace-based tasks provide a context for the learner-practitioners because they have to complete the tasks based on work they are engaged in. This results in the learning becoming situated in their practice.

The workplace-based portfolio tasks were viewed by the learner-practitioners as: "helped me to plan properly... activities brought about critical thinking with respect to understanding the context of the group, their interests and how to involve everyone without compromising anyone's values etc..." (Q2). The portfolio tasks were viewed as developing critical thinking especially with reference to the context of the group that learner-practitioners were going to work with in the workplace.

The workplace-based tasks engaged the learner-practitioners in a critical reflection of their practice. Learner-practitioner 1 noted that in terms of the portfolio tasks and the links with her work, she was starting to question herself whether the "information she was disseminating will it be relevant to the group." (Q2). In the section below I have focused on the main pedagogies used to support context-based learning on the course and explore how these have been experienced by the learners.

4.4. Relationship between the Course and the Workplace

Linking course and workplace tasks is fundamental to establishing how learner-practitioners assimilate the course into their work. At the heart of this is changed practice, but this in itself is not necessarily an indication of learning. Sometimes it goes beyond the workplace and into the manner in which a person starts to think and view the world. Changed practices are not always immediately visible, because people work in the confines of a system.

In this section I have allowed the data to emerge and some fundamental relationships have surfaced. I will present these emergent relationships and data in the following paragraphs. In this section I

discuss the modules as part of the course.

4.4.1 Capabilities

The aspects linked to capabilities that emerge incorporate elements of an individual's confidence. Both individuals in this research expressed levels of confidence as a critical element that they felt they could see in their engagement with their work. Learner-practitioner 1 noted:

For me I didn't have any environmental background. But now I can stand up in a capacity building workshop, and you'd swear that I am a pro...

The way I explain myself and talk confidently of the stuff that I know. Then you would say that one she is an environmentalist. And then one day I will be there...Ja, I am confident.

Looking at the time when I was conducting that stakeholder engagement when I was in charge of planning my two day workshop what is it that I want in my workshop, this is how I want it, this is how I am going to introduce my speaker, this is how I am going to do it, this is how I want my programme of the day. Then I am in charge... (I3) AM 8- Appendix 4.

Learner-practitioner 1 also noted that she felt accepted within a group because she can now understand what is being said.

...especially now when we had the EIA open day. The big guys we had there, you can say this people talk money. Starting from the dress, the language they use during their presentation. I happen to now understand. I happen to have this as my target audience clearly defined within me. And selecting when you have this type of audience, then this is the way to conduct yourself. You can be at their level and they accept you and then you can interact. When we had the EIA open day, then you had these guys sitting with their laptops, phones. (AM relationship between course and workplace)

This level of confidence has also been observed by her line function manager who noted that:

... But now there is growth in her scope. She can actually quote you know things that she has learnt at Delta on issues of the EE programme. She can quote all of those principles, the Tiblisi. She has got a background knowledge of which she didn't have before ...
but I think she is now seeing opportunities and making use of those opportunities. (I5)

The understanding of environmental and education concepts and language through reflective critical dialogue underpinned by deep questioning located in real contexts with themselves and others, are part of the individuals developing the confidence. Learner-practitioners now have the freedom to engage in conversations on environmental education at greater depth. Learner-practitioner 1's

manager noted:

Now she is very factual. This shows growth in terms of her involvement in this course. I think it has actually helped her to comprehend concepts. Because it comes out now in her presentations, which was not the case before ... I think she is now seeing opportunities and making use of those opportunities. (I5) AM 8- Appendix 4.

Learner-practitioner 2 demonstrated a similar level of confidence in her interviews. The level of confidence can be seen in the ability to hold a discussion with her colleagues around concepts, e.g. an environmental issue, and to engage dialogue with them in the workplace around the use of the word 'issue'. This dialogue itself results in greater awareness amongst her other colleagues of environmental concepts. The dialogue has resulted in her actively engaging with the concept to develop her own meaning from the words.

I remember that we once debated about the term 'issue' ... And we were debating about that and why do you call them issues. Some were saying, no it's not issues... (I2) AM 8- Appendix 4.

Apart from conceptual development, it is the practical skills required when working and facilitating the groups which she had found significant for herself when interacting with different community and school groups.

I think it was the ability to control the group even if I don't know what I am talking about. Sometimes a question comes up, you know the answer, but you never thought someone would ask you this question. For instance, we were talking about eco-guides yesterday and someone asked us what "eco" is. I thought what! I never thought someone would ask me, but I kept my confidence and answered. (I2) AM 8- Appendix 4.

Learner-practitioner 2 noted that the National diploma in EETDP has helped her in supporting the interns that she had been mentoring. On an occasion they had started discussing about the "concept of LTSM" and what it meant. She noted that this started a discussion amongst them. Her line function manager has observed the following:

I remember a while ago we had the learners from the internship and learnership programme, who were very confused about some things. There was this huge discussion and debate. But Learner-practitioner 2 she provided clarity on this issue. Even in meetings she speaks with a different type of confidence. (I4) AM 8- Appendix 4.

The richness of the description provided by her line function manager is provided below as a little vignette because it encapsulates the various elements of her development as observed from the eyes of her manager.

I think she has learnt to identify and understand the different communities we working with, apply principles of EE goals and carefully accommodate learners with special needs. She's also been making contributions to brochures and educational materials. Oh ja, she has been writing more for like the quarterly newsletter especially about her projects. When we were planning for a campaign in Thembisa I remember she made some suggestions on what would inform education in the community, like community radio stations, trucks with an educational message, clean up campaigns. She brings in the educational element. Now I also recall her giving valuable input on educational centres and put up relevant information for the centres. Recently she organised a workshop for educators and decided to really engage them in development. She took the educators to Bela-Bela. She is definitely making progress on EE programmes and she used a consultative approach. She checked from the audience first what they wanted to do. She organised the relevant facilitators for different parts of the programme.

4.4.2. Pedagogical Choices in Workplace Contexts

Analysis of workplace tasks and observations has revealed an emergent relationship between the methods used on the course and the methods used by the learner-practitioners in their workplaces. I will discuss the links with Learner-practitioner 1's practice and thereafter discuss the links with Learner-practitioner 2's practice.

4.4.2.1 Learner-practitioner 1's Methodological Choice

An analysis of the annotated photographs (AP1) reflects the learner-practitioners' identification of the methods used on the course as "learner centred", "problem solving", "active learning" and leading to critical thinking. In AP4, which helped Learner-practitioner 1 document her workplace practice, it was observed that the learning activities that she helped to design have emphasised learner-centred approaches, which fostered problem solving and critical thinking. The examples below help to contextualise the work in which Learner-practitioner 1 was engaged.

Learner-practitioner 1 helped to plan and design an environmental camp for learners, in conjunction with the Sustainable Resource Management unit. She used photographs to help record the event and then narrated the event. The learners on the camp were initially asked to draw their understanding of their environment. Thereafter they were asked to share the maps with the other

learners.

Learner-practitioner 1 noted that she selected this activity because she had engaged with it on her own course and was familiar with the activity. The manner in which the activity on highlighting their understanding of the environment was facilitated appeared to differ from the Delta activity, because in the Delta activity the learner-practitioners had to take photos in their environment and then bring them to the workshop during which they were analysed. At the camp they asked the students to draw their understanding. She felt that it was “experiential and real and the learners would remember it for life because they actually did it.” (AP4)

Other learning activities that learners’ engaged in focused on water testing. The water testing learning activity engaged learners in finding out about the local environmental issue in the learners’ community and the learners identified reasons for the levels of pollution in the water and what role they have played in contributing to the issue. Thereafter the learners engaged in observing and exploring possible actions that they could engage in to help solve the problem. They looked at permaculture and at real cases of what learners had done to address environmental issues they identified.

The conceptual development of the programme that Learner-practitioner 1 was part of developing followed a process of taking learners from what they are familiar with and thereafter understanding the environmental issue and then providing possible examples of new practices. Learner-practitioner 1 noted in (D15) the feedback forms for Module 3 that “there is no wrong/right programme, we just need to be critical, think and be able to stand on what we say”. This shows her ability to reason for something she values.

4.4.2.2 Learner-practitioner 2’s Methodological Choice

Learner-practitioner 2 noted that “learner centred, active learning, critical thinking, experimenting and active learning and reflective processes” (D15) were used on the course. When she designed her learning programme on acid mine drainage for a group of Slovo Park youth she incorporated learning activities that focused on developing “critical thinking, action orientated, problem solving, creative action and reflection’.

Learner-practitioner 2 selected engaging with a water cycle poster, a presentation and discussion on Acid Mine Drainage, water testing and soil testing activities to gather more information. Her motivation for selecting these learning activities was because it helped to “develop the knowledge and skills of the learners in a meaningful way” (D).

Learning activities designed for Learner-practitioner 2's workplace-based task in Module 3 indicated that the educators she would be working with on the issue of waste, would first draw a school map to define the school environment, people, community, background of the teachers and learners (D27). Thereafter the educators would be involved in conducting a waste audit and then playing a card game that engages the educators to consider how they will "change the current situation and to undertake action towards sustainable changes". (D27)

The intention of Learner-practitioner 2's workplace activity attempts to understand the educators and their context, followed by an investigation to help the educators understand the environmental issue they identified and then the card game is designed to provide the educators with ideas for possible actions that could be undertaken to "change the current situation". (D27) Learner-practitioner 2 has included reflection as a key aspect of the work she will engage educators on.

The relationship between approaches of contextualisation and understanding the group, developing critical thinking and using reflective processes to understand workplace practice and design new practices appear to underpin the relationship between course and workplace. A key component emerging from the discourse on contextualisation reveals tensions between the course's emphases on contextualisation. The course expects participants to work with one group from the start of the course to the end e.g. the portfolios require the learner-practitioners to profile a community or a group affected by an environmental issue in Module 1. In Module 2 they are required to use the same group. This process continues until Module 7 at which stage they must implement the programme with the same group identified in Module 1. The problem experienced by the learner-practitioners is that they work with many different groups. Both Learner-practitioner 2 and Learner-practitioner 1 struggled to work with the same group identified in Module 1. Learner-practitioner 2 started with the issue of recycling in her office, but eventually moved to working with School A and then implemented the programme with School B.

Learner-practitioner 1 in Module 1 started profiling the community in Informal settlement because she really wanted to "make a difference" in people's lives (I). In Module 7 she implemented the programme with School C and School D through the land care project. Despite these changes, both learner-practitioners completed their workplace implementation by applying their skills in different contexts to a new situation.

The managers and the learner-practitioners noted that they have to work through the priorities of the department which are sometimes influenced by politics. They may "start working on one project" and then be "called to go to another because there is a crisis" (I). The link between the workplace practice and the course posed tensions in terms of priorities because "when I arrive at work there is

a different priority that is there which is perhaps set by the standard of the Unit. So it becomes difficult for me to say can I link this that I brought you know” (I). The difficulty can be observed in attempting to get the learner- practitioners to document workplace practices appropriately in a formally structured way through portfolios, so that it may reflect their changed practices.

As an assessor and facilitator on aspects of the course, I noted in my journal that I found discussions with the managers, observing workplace practices and learners documenting what they do in the work through a series of photographs as valuable insights into the workplace practices of the learner-practitioners. I have found that these provide valuable insights into the daily underpinnings of the work and evidence of competency of the learner practitioners to do the job. The concept of integrated assessment across the modules and between the theory and practice has provided learner-practitioners with multiple opportunities to develop their knowledge and practise their skills.

4.5 Conclusion

In this chapter I have provided two case studies which have provided an in-depth narrative of the workplace context of each case-study. The structure of the narratives has been guided by the analytical categories of the course participants, the intention of the course pedagogy in the design of the course and also in how it unfolded during course processes. Thereafter I narrated the learner-practitioners experiences of the course pedagogy and explored how the course processes had unfolded for the learner-practitioners in the workplaces. This chapter has allowed the reader to engage directly with the data as rich thick descriptions from the raw data have been provided. The reader may also draw conclusions and insights from the data that are different to mine. In the next chapter I look specifically at how the data are related to the National EETDP and draw on the literature to support the discussion.

CHAPTER 5: UNDERSTANDING THE NATIONAL DIPLOMA IN EETDP PEDAGOGICAL PROCESSES SUPPORTING WORKPLACE LEARNING

5.1 Introduction

In Chapter 4, I described the learner-practitioners, their workplace context and the emergent relationships between the National Diploma in Environmental Education Training and Development Practices and the workplace practices of the learner-practitioners. The data provided thick descriptions of pedagogical processes which enable and constrain ‘freedoms’ that foster ‘capabilities’ to achieve significant ‘functionings’ in the two study sites (Sen, 2009). The data also provides insights to inform future course development processes, especially pedagogical decisions, when designing and implementing the National Diploma in EETDP or similar courses.

The goals of this research project are to:

- Understand the context, history and intentions of the course pedagogy;
- Explore and describe professional practice of the learner-practitioners; and
- Investigate how the course’s pedagogy supports praxis and the development of capability.

This chapter presents four emerging findings in line with these research goals. Sen’s (1992) capability approach as understood by Walker (2010) and Unterhalter (2010) and the theory of social learning as interpreted by Wals (2007) are the primary lenses used to interpret the data. Through the analysis I have identified key capabilities and pedagogies that learner-practitioners have found valuable in their own workplace learning processes. The findings take the form of analytical statements (Bassey, 1999) which are elaborated in sections 5.2 to 5.5 as follows:

- **Analytical Statement 1:** Cooperative learning underpinned by guided reading, open-ended questioning, dialogue, modelling and the use of different types of tasks contained in course materials, scaffold learner-practitioners to understand, critically reason and engage with concepts and skills which they can apply with increasing confidence in their workplaces.
- **Analytical Statement 2:** Authentic, situated case studies and experiences supported by dialogue and workplace tasks appeared to enhance learner-practitioners’ levels of critical engagement with and personal motivation around the socio-ecological context of their work.
- **Analytical Statement 3:** The engagement of critical thinking skills in relation to professional practices are enhanced by open-ended questioning and dialogue which focus on reflexive processes.

- **Analytical Statement 4:** The long-term, scaffolded progression of the course and the dynamic institutional environment in which the workplace-based assessment tasks play out create tensions for learner practitioners in assessment processes.

5.2 Analytical Statement One

Cooperative learning underpinned by guided-reading, open-ended questioning, dialogue, modelling and the use of different types of tasks contained in course materials, scaffold learner-practitioners to understand, critically reason and engage with concepts and skills which they can apply with increasing confidence in their workplaces.

Co-operative learning contributes to a learning system in which people learn from one another and with one another. Wals (2010) noted that we learn better in heterogeneous groups than in homogeneous groups and that learning is about “collective meaning-making and sense-making” (p. 12). Sen (1992) acknowledged that people come to learning situations with different social capital because they have particular contexts from which they emerge. Fenwick (2006) further noted that adult learners have “lived experience” and learning from peers and colleagues are important aspects of work based learning. Lave and Wenger (1991) indicated that individuals learn as they participate *in situ* by interacting in a community of practice. Billet (2004b) also noted that individuals actively influence one another’s knowledge and norms through co-participation; therefore he argued that knowing and doing in workplace learning are intertwined.

The co-operative learning intentions of the course developers are articulated into the course materials as noted in the on-course task (see Appendix 5) in Module 3 when learner practitioners are asked to “work collaboratively in a group”. The co-operative learning intentions can further be noted in the data for Module 6 course materials when the questions in the task require learner-practitioners to “... share a few key points about ... choice of materials with others” and in “plenary have a discussion about printed material...” (Table 4.3). The data highlights the value of knowledge construction through jointly participating in a learning activity with others in their communities of practice.

The co-operative learning intentions of course developers are further articulated into the course processes and have been used through “group work” activities and “sharing with peers” as noted in the data of the course observations when learner-practitioners were asked to read the case study and then to “discuss the questions in groups and to complete the worksheet” (section 4.3.1.4). The learner-practitioners were also engaged in working “together to note how they would change or adapt the programme for the group. Each group made a presentation” (section 4.3.1.4.). During the

observations (O1) as indicated in section 4.3.2.3, Learner-practitioner 2 noted that “how one is going to present the poster” was a point that emerged for her. She said that they could “explain their poster to each other, but how we are going to use it” they found difficult.

The above data highlights learner-practitioners’ engagement in group and peer processes as important processes towards supporting learner practitioners to initially “frame” (Wals, 2007) their understanding of environmental learning programmes and thereafter through engagement with peers to re-think how they would “change or adapt the programme”. Mezirow (1991) called this “perspective transformation”. The process of re-thinking the learning programme requires the learner-practitioners to re-imagine a programme and reframe their understanding of an environmental learning programme using concepts and ideas they have learnt from the course. “Open-ended questions, dialogue, reading and modelling methods” (see section 4.3.1.5) have underpinned the cooperative learning opportunities and interactions towards reframing practices for socio-ecological sustainability.

Learner-practitioners need opportunities not only to enquire into their own views and ways of thinking, but also, through dialogue with others, they discovered different perspectives and points of view. Through dialogue in the group and with colleagues in the workplace (section 4.4.1), inner speech was turned into a shared event when they were “debating the term issue”. Learning conversation was not only happening on the course between the learner practitioners but was also happening in the workplaces between learner practitioners themselves and with their colleagues (section 4.4.1) and was seen to contribute to learners understanding of concepts e.g. an “issue” or “what is a learning aid and a learning support material” (section 4.4.1). This data further suggests that learners were starting these conversations and becoming responsible for their own learning in workplaces. The process of discussion helped learners to frame their own understanding of the concept and then to arrive at an agreed understanding amongst all of them.

Open-ended questions, as contained in the learners’ course materials, assignments and during the facilitation process, created a platform for the learner-practitioners to surface their knowledge and life experiences e.g. “What helped you learn when you were at school?” and then use the information to reflect on how they experienced particular learning situations. Learner-practitioners were further engaged in deconstructing (Wals, 2007) the experience especially when looking at “which ones need to be adapted to make them more suitable...” (see Table 4.3). The questions were used as a stimulus for the dialogue to help facilitate a process of enabling the learner practitioner to reconstruct (Wals, 2007) an improved practice (see Table 4.3 on course and workplace tasks) by re-thinking the process of learning if they were in a similar situation (Table 4.3 in Appendix 4).

Learner-practitioner 2 noted that “some of things we are supposed to do, now I wouldn’t want to do

them, or do them in the way they want us to do them. Or I would want to know reasons for everything I do..." (I2) represented in data in section 4.3.2.3. The preceding data highlights a level of rethinking processes linked to workplace practices. However, this data also highlights an emerging tension in the workplace, between the systems and processes in the workplace and the learner-practitioners, because learner practitioners are wanting to reframe their practices.

In this research, learning has been considered as a social process. Through the interactions with others and the facilitator, the learner-practitioners move towards higher levels of competence and complexity and the Zone of Proximal development through the use of questions and through encouraging learner-practitioners to ask questions as evidenced in Learner-practitioner 2's comment in the paragraph above where she noted how she was thinking about her work and wanting to know reasons for what she has to do. The open-ended questions were used as prompts for the learner-practitioners to think about a problem in a new way. In data presented in section 4.3.1.4 the facilitator asked the learner practitioners a deliberative question of "why this particular approach is significant to your work context" and followed up with a deeper question when she asked them how the approaches would "impact on the decisions you would make on programme design" (AM4, 78-79). The facilitator was encouraging the learners to think more deeply about their practice and to move from considering the work contexts to actual decisions they would then make.

The involvement and collaboration with peers or the facilitators through open-ended questions and cooperative learning strategies creates dissonance as it helps to shift the learning to become something that the learner-practitioner can then do on their own (Table 4.10) or move beyond current practices to higher potential learning levels. The use of questions and dialogue supports scaffolding learner practitioner from the "actual developmental level" to a "potential developmental level", which is referred to by Vygotsky (1978, p. 88) as the Zone of Proximal Development.

Using questions and engaging in dialogue has created opportunities for learner practitioners to engage in speaking, debating, discussing and thereby continually gathering knowledge. It is evident that asking the right questions can lead to either higher order thinking which rouses curiosity and interest, elicit views, feelings and experiences or focus attention to stimulate discussion. It can provide an intellectual challenge as noted by Learner-practitioner 1's comment when she noted "there's no at the back of your mind". Data in section 4.4.1 indicated how learners are 'scaffolding' and building "confidence" to new learning through questions. The movement from surface level to deep level learning which is characterised by transformative or expansive learning is being achieved through questioning.

The capability approach emphasises the role of dialogue, participation, debate and discussion as opportunities for enhancing capabilities and functionings (Sen, 2009). At the heart of all these is a question. The question will stimulate or be the catalyst for the dialogue, discussion or the debate. The question leads people to participate in the dialogue or the discussion, surface diversity of perspectives and through reflecting on arguments coming from different quarters, together with deliberations and debates, move people towards reasoning and making social choices of things they find is valuable to them. According to Walker (2007), taking part in discussions with peers is an important functioning in the capabilities approach.

Data represented in section 4.4.1 (“we once debated about the term issue ...”) further elaborated that social meaning and knowledge are shaped and evolve through dialogue, and questions are a key essential feature. An aspect that Engeström (2008), Wals (2010), or Lave and Wenger (1991) all agreed on is that in order to create higher or third level thinking or learning, there is the need for social interaction and collaboration. An important aspect is that conversations in the workplaces and amongst the learner-practitioners occurred organically as the learner-practitioners began to engage with the questions for their workplace tasks. The questions for the workplace tasks generated a level of dissonance in the learner-practitioners who needed to understand and get more clarity around particular issues to be able to move their understanding forward (Wals, 2007). There was almost an intrinsic level of motivation in prompting the conversations outside the course contact time. The learner-practitioners then became responsible for their own learning.

If scaffolding and questioning is viewed from the capability approach, then the use of questioning, dialogue and participation in co-operative learning are linked to the concept of reasoning (Sen, 2009). As reflected in sections 4.4.1 and 4.4.2, in the NDEETDP, questioning was used to foster intellectual probing and reasoning to help surface underpinnings of learner-practitioners’ practice as a way to exploring how learner-practitioners approached ideas of socio-ecological sustainability and learning in their work practices. As Learner-practitioner 2 noted “... some of the questions that both of you pose, are the types of questions that force us to think, push us to do something, push us to think beyond whatever we are thinking, and we would go an extra mile in terms of our work and our thinking...”

Learner-practitioner 2’s statements indicate a valuing of the process of questioning as it extends their thinking and supports the process of a “critical mode of being” (Walker, 2009, p. 240). The process has helped the learners to frame and then reframe their understanding through a critical engagement through the questioning and dialogue (Wals, 2007). Walker (2009) further noted that according to Freirian pedagogy a “critical mode of being” is also embedded in the questions learner-

practitioners learn to ask. It is through asking questions, learner-practitioners highlight their own personal learning.

Learner-practitioner 2 and Learner-practitioner 1 both indicated a greater sense of confidence that they experienced in their work through participating in the processes on the course. This point was further supported by both managers who were interviewed (see data presented in section 4.4.1). Conceptual language development on the course through the pedagogical process the learners engaged in helped the learners access the “concepts” and “develop the language” for socio-ecological sustainability. This helped the learners to become confident in their engagements with their colleagues and other stakeholders they worked with. Walker (2006) noted that we cannot separate what we teach from how we teach it. The way we teach can support and enhance “human flourishing” (Sen, 2009, p.) so that learner-practitioners develop the confidence to re-imagine and reframe (Wals, 2007) their work practices with an in-depth understanding of what lies behind the practice.

Data represented in section 4.4.1 highlights the process of questioning, dialogue as supporting learners to “find their own voice” (Walker, 2009). Through conceptual language development, the learner-practitioners have the confidence to engage in activities and discussions and therefore experience a greater sense of freedom to practise their capabilities and work in ways that they have reason to value (Sen, 2009). The expansion of human capabilities to bring about social change linked to socio-ecological sustainability should be a focus of the discussion of progress in society.

In the context of the course, the learner-practitioners noted they are able to be confident in what they do. However, it is uncertain whether they will have the opportunities to practise their capabilities and functionings in ways that are valuable to them back in the workplace because, as noted by Learner-practitioner 1, “some things I don't think I would want to do them”. Would the institution and the nature of their educational work support or create the opportunities for them to practise their capabilities? Some aspects of this discussion are surfaced in Analytical Memo 8.

Through the observations in the workplace, it was evident that the learner-practitioners were making use of the opportunities that presented themselves; however, as long it was in a safe space and did not cause tensions, for example, when Learner-practitioner 1 did not comment on the relevance of the animal matter series booklets which were developed for teachers, not being relevant for farmers at the female farmer awards (O3). Learner-practitioner 2 appeared confident in conducting her meeting and in make recommendations for the BKB programme (O2). She also appeared confident at the BKB prizegiving ceremony when she was presenting reasons for choosing the school at

which she decided to host the function. Her sense of confidence was also supported by the observations of the line function manager of the changes he saw in her through her engagement in the course (section 4.4.1)

The focus of this Analytical Statement One is on the pedagogy supporting the learner-practitioners to develop more professional confidence. However, the capability approach raises some important questions. Firstly, the emphasis is not on what a person actually ends up doing, but also on what she is in fact able to do, whether or not she chooses to make use of that opportunity (Sen, 2009). A central feature informing pedagogy is meaning-making by learner-practitioners and understanding how they make meaning from particular learning situations. As noted in section 4.4.1, the participants were engaged in making meaning through the processes of dialogue, deliberations, questions through co-operative learning approaches that acted as the catalysts. The interactions among people are viewed as possibilities and opportunities for meaningful learning (Wals, 2007). As McDermott cited in Murphy (1999, p.4) indicated: “learning is in the relationships between people and does not belong to one person but to the conversations they are part of”. As learner-practitioners discussed and talked (section 4.4.1) about their experiences individually or collectively, they were actively engaged in participation and meaning making.

5.3 Analytical Statement Two

Authentic, situated case studies and experiences supported by dialogue and workplace tasks appeared to enhance learner-practitioners’ levels of critical engagement with and personal motivation around the socio-ecological context of their work.

Walker (2010) noted that the “critical mode of being is key to pedagogical purpose and practice”. She also noted “knowledge and knowing is never complete but that both arise from dialogue and engagement with the messy realities of life”. Real life situations and experiences are viewed as critical elements towards learning. Walker (2010) also noted that in order for experience to become a meaningful learning opportunity it should be subjected to critical analysis and not simply be accepted at face value.

Wals (2007) also noted that people become stuck in their own frames and ideas of reality and sometimes are not able to see how this impacts on how they interact and see the world. He noted that it important to transcend our individual frames and co-create new frames. Deconstructing current frames to surface hidden assumptions can be achieved in working with others with real and meaningful situations.

Engaging authentic, situated and relevant case studies e.g. “the Magaliesberg community or the City year students and ... environment matters LTSM” (see vignette) deepens learner-practitioner’s engagement with the socio-ecological context of their educational work. The questions and work-sheets supported learner-practitioners to engage in the deconstruction of their own experiential practices of work.

Emerging from the data in sections 4.3.3.4 and 4.3.3.5, learner-practitioners felt that understanding context and the use of contextually relevant and experiential case studies helped them to engage in more critical ways and they could find the personal value of what they were doing in relation to their work and personal lives. Learner-practitioners were able to locate themselves in the learning process and make meaning of the situation.

Through engagement in real situations e.g. working with the City Year students who were typical of youth groups the learner-practitioners would be required to work with, they learnt to understand the context of groups, their personal histories, and cultures, socio-political and environmental circumstances. The skill of actually understanding the people they work with and seeing them as valuable human beings and drawing on the experiences to help learning processes, emerged as fundamental learning from the course pedagogy.

Nussbaum (1997) indicated that understanding that a globally educated citizen should engage with a wide variety of issues and “acquire knowledge and analytical skills but also learn how to be a human being capable of love and imagination” (Nussbaum, 1997, p. 14) suggested that learner-practitioners should engage in global issues and have a broader view of people and their circumstances and be empathetic to others even if they are at great distances to ourselves. The suggestion is that learner-practitioners should see themselves “not just as citizens of a local region or group but also as human beings bound to all other human beings by ties of recognition and concern” (Nussbaum, 1997, p.9). In engaging with the NDEETDP, it is evident that the learners have made meaning of engaging in real situated pedagogies that have fostered empathy for others, through local interviews, field trips and experiential encounters.

Learner-practitioner 1, for example, in data represented in section 4.3.3.5 noted that “... you talk about the real thing ... you put yourself into this in whatever you do ...” (I3). Through the process of engaging in real situations e.g. interviews with course developers, learner groups, materials developers, field-trips or contextually relevant case studies and workplace assignments which depict similar situations to learner-practitioners contexts, appeared to extend the learner-practitioners’ meaning-making processes.

As represented in the data in section 4.3.4.3, the ‘context map’ the learner-practitioners drew acknowledged that people are diverse and emerge from diverse contexts of work, history, environment, culture, politics, age, gender, position in family and economics. The data suggested that each person will have different resources available for them to convert their opportunities into ‘functionings’. The data suggests a link to the concept of heterogeneity in the capability approach, which notes that aspects like position in a family, age, gender etc. affect people’s responsibilities. The capability approach, as proposed by Sen (2002), tends to place emphasis on the concept of heterogeneity. The diversity of the learning group brings together diverging norms, values, interests and realities resulting in perspectives to the learning situation which add to helping individuals deconstruct their frames and question their deeply held assumptions of reality.

Contextually relevant case studies in the NDEETDP have referred to situated learning opportunities as represented in 4.3.4. However Learner-practitioner 1 and 2 has used the concept of contextualised to mean a more localised curriculum. There is a strong emphasis on how local knowledge was used for learning. In the NDEETDP, the concept of contextually relevant has meant drawing on the context of the learners and their work practices relevant to the communities they work with. Learning is a contextualised process and curriculum in context contributes to learning being relevant and meaningful (Cornbleth, 1990). The use of contextually relevant case studies extends learners’ creative imagination in trying to identify solutions to challenges they encounter (Nussbaum, 1997).

Experientially based pedagogies have enabled the learner-practitioners to connect in a very strong way to the emotional aspects of the learning process. Through field trips or interviews with youth groups the learner-practitioners felt very emotionally connected to the learning experience and it moved them into wanting to change how people live or learn. There is a strong relationship between reason and sentiment and both are viewed as interrelated activities (Sen, 2009). As Learner-practitioner 1 noted when on a field trip “it brought tears to my eyes ... I really felt that I must do something to change it” (I3). The contextually relevant and experiential case studies enabled her to connect and make linkages between knowledge and practice.

However, while the learner-practitioners may have felt connected to the learning experience and want to change the situation, there is sometimes a disjuncture between what they have to do at work and what they do on the course. Although Learner-practitioner 1 identified the group in the informal settlement as the people she wanted to work with, the changes in her job meant that they were no longer her work priority. As Learner-practitioner 1 and her line function manager both noted (I3, I5), if she had remained in the same job, it would “not have been a challenge for her to implement the programme” she had designed with the group she had identified. Learner-practitioner 1 however, still felt a strong sense of connection to the group in the informal settlement and there

continues to be a personal sense of wanting to improve people's lives. The will and intrinsic motivation to want to do something is there, but the question remains whether she will choose to do something in the future if other opportunities arise (Sen, 2009).

An insight that should also be flagged at this point, is that if an authentic, real, contextually situated learning experience is not appropriately mediated through questions, dialogues, deliberations, conversations and participation (as discussed in Analytical Statement 1), it would be difficult for learners to assimilate the new knowledge and convert the learning from these experiences into higher level thinking and learning opportunities. As noted by Dewey (1974) quoted in Elliott (2007), people "learn through doing and being actively involved". However, if learners are engaged in a task with a purpose and use questions to move the task from being a passive learning opportunity to a more active social learning opportunity through a conversation or discussion, then it can bring about greater innovation (Glasser, 2007). The learning in and from situated and contextual experiences would only be valuable if it was used to understand the connections between our actions and the consequences that emerge from the experience and we learn from that to create a new and better practice. As noted by Dewey (1974), the thinking and reflecting would help to give the situation deeper and wider meaning (as quoted by Elliot, 2007).

5.4 Analytical Statement Three

The engagement of critical thinking skills in relation to professional practices are enhanced by readings, open-ended questioning and dialogue which focus on reflexive processes.

Interactions between people are considered a valuable opportunity in creating possibilities for meaningful learning for ESD (Wals, 2010). Wals (2010) noted that there will be no learning without dissonance and no learning if there is too much dissonance. He also indicates that it is important to frame your practice, before the deconstruction of the practice can occur, and to deconstruct the practice before re-framing of a new or improved practice can take place. The deconstruction process was seen by Wals (2010) as an important step in understanding underlying "hidden assumptions", "ideologies" and "relationships". After understanding these realities, new practices can be co-created.

On the course critical thinking skills stimulated through readings, questions and dialogues (section 4.3.2.) represented in the exam questions, course material readings, workplace based activities and workshop processes were the pedagogical tools used to help the learner-practitioners mediate the process of their awareness of their professional practice.

The data in section 4.3.2.3 indicated that question and dialogue engage the learner-practitioners in critical thinking skills and encourages them to engage in thinking about their practice. The open-ended questions and the dialogue enhance opportunities to reason and to examine current situations and then to imagine a situation that could emerge. This experience of being able to think critically of oneself is often an experience that tends to liberate the mind (Nussbaum, 1997). Significantly, human practices do not naturally lend themselves to an “examined life” (Socrates, as quoted in Nussbaum, 1997) but a stimulus is required to spark the process and in this case readings, questions and dialogue have supported the process of engaging people to examine their life and practices.

A process that underlies critical thinking is reasoning. Reasoning helps develop citizens who are responsible for the choices they make. Liberating the mind to be able to think beyond tradition etc. happens from processes of thinking critically. While questions have formed the basis for reflexivity, there is a need to engage in discussions/dialogue with peers to help illuminate aspects that learner-practitioners themselves are unaware of (section 4.3.2.2) when they receive “feedback from their group”. To move the process of critical thinking and reasoning further, questions grounded in theoretical framings e.g. “the Hart, Kool and Jickling reading” were used to introduce new knowledge and ways of understanding and framing their current practice and deconstructing their practices.

The questions also had the potential to reconstruct and rethink new practices. The questions constantly required participants to consider how they would improve their practice for socio-ecological sustainability (section 4.3.2.). This has had significant impact on learner-practitioners because they found the process of deconstructing their practices and then re-imagining new ways of working made them more critically aware (section 4.3.2.1) of their work practices and it was at the “fore-front” of their minds.

Learner practitioners were starting to ask questions of their own practice and not simply answering the questions e.g. in section 4.3.2.3 when learner-practitioner 1 asked herself the question “are we having an impact on the community, or are we just doing for the sake of doing?”. The questions are posed to start a dialogue but as learner practitioners start to engage with the questions, they begin to question themselves leading to the development of critical skills. They start to interrogate and raise questions about the moral relevance of their action (Walker, 2009).

Re-thinking and re-imagining practice is further supported through dialogue with peers and facilitators (section 4.3.2.3) when learner-practitioners discuss their learning and teaching support materials with each other. Learner-practitioners begin to gain a new perspective by reflecting on their material with peers. Through discussing and talking with peers and sharing ideas and ways of working, learner practitioners begin to “co-create” new frames of references which are inspired by

alternative ideas provided by others. In Module 7, learners presented their learning programme, implementation plans and evaluation plan over a five-day period and got feedback from facilitators and peers, which helped learner-practitioners to reflect on their work and to surface new ideas.

The process of engaging in reflexivity significantly has the potential to create tensions for course participants. It creates a sense of ambivalence because the learner-practitioners begin to see their workplace practices differently which then cause tensions with work priorities and the manner in which work is to be carried out (section 4.4.2.2). The workplaces are not naturally reflexive environments and reflexivity is relatively informal and inhibits learning and provokes resistance. Boud and Garrick (1999) noted that reflexivity vocabulary in workplaces is not common.

This tension between the new ways of critical thinking and the current requirements of their workplace tasks has the potential to disrupt the workplace as evidenced in section 4.3.2.3) when learner-practitioner 2 tried to comment on the brochure and was told “not to say anything if she did not have anything good to say”. The tension created for learner-practitioners has the potential to engage them in questions and debates and discussions in workplaces which result in transformed practice or has the potential to constrain the learner-practitioner’s capability to lead a working life that she “values”.

Paulo Freire (1970) advocated for praxis, or “reflection and action upon the world in order to transform it” (p. 4). Questions in workplace assignments and tasks supported learner-practitioners to mediate between the course and the workplace. Portfolios as used in the NDEETDP aimed to provide the learner-practitioners with opportunities to “assimilate the learning from the course”. The portfolios helped the learners to work with the questions and to transfer knowledge and skills from an abstract level into something more concrete (section 4.3.2.3). Learner Practitioner 2 noted “the questions you both pose ... push us to think beyond whatever we thinking”. This statement highlights that questions support “reflexive learning to change” and can be starting points for “reflexive deliberations” (O’ Donoghue, 2014, p. 10). Situated questions can help us frame that which we “don’t yet know and to find out ... better ways of doing things together” (O’Donoghue, 2014, p.10).

5.5. Analytical Statement Four

The long-term, scaffolded progression of the course and the dynamic institutional environment in which the workplace-based assessment tasks play out create tensions for learner practitioners in assessment processes.

In work integrated courses, the work should be the curriculum and the workplace tasks part of the assessment (Boud & Garrick, 1999). Billet (2009) noted that workplace activities are highly structured and workplace goals and practices determine the workplace activities. Therefore, workplace assignments should link closely to the workplace tasks and goals. Daily work individuals engage in should be the basis for the evidence for the assessment. However, data from this study suggested that the integration of workplace-based and course-based processes is not always “seamless” (I1), and this has implications for the form and quality of learning.

Initially the course developers noted (I1,184-185) that “environmental practitioners are not directly educational officers” and that it would be difficult for the learner-practitioners to implement good “pure content the way it is in the course”. The course developer also acknowledged that “workplaces are not structured for formal tasks ... so they can actually design a programme, but the practice of sitting down and designing a report on it and the reporting on it is a challenge” (I1, 160-167). From a pedagogical point of view, this has implications for the types of assessments conducted to gather workplace data. Learner-practitioners need to be actually observed in doing the job, rather than trying to assimilate information into formal portfolios. Assessment processes on work-integrated courses can sometimes marginalise the very people they were meant to support.

The workplaces described in this study are dynamic environments that are influenced by “political mandates”, policies and government priorities. As noted by Thomas (2009), we are living in an era of super-complexity. The nature of work and socio-ecological challenges is constantly changing. Knowledge is not static but changing and knowledge practices are changing. Workplaces are requiring individuals who can adapt and change to changing knowledge of workplaces.

Workplaces have as their primary function, the production of goods and services and the achievement of the organisational goals. Learning is not a primary function of the workplace (Unwin cited in Malloch, Carins, Evans and O’Connor, 2008). In the organisations that the learner-practitioners are located in, the goals are determined internally and are shaped externally by the “political mandates of government” and the “policies that govern the work” e.g. the municipal act. These policies influence the particular corporate strategies adopted by provincial and municipal structures. These political mandates have also influenced the view of socio-ecological sustainability. People and their well-being are placed at the centre and an anthropocentric view is adopted (Table 4.2) where the vision of the municipality includes “sustainable and people centred development services”.

The policies and priorities of the local and provincial government respond to challenges and changing mandates. Both the learner-practitioners and the line function managers indicated that they often encounter challenges because of emerging priorities (section 4.5.5). The priorities change in terms

of communities and stakeholder groups with whom the municipality or provincial government may work. The learner-practitioners on the course find themselves in a space “within and between education and work” (Guile & Young, 2003, p.72) which requires an acknowledgement that identities and contexts themselves change and therefore it is not a simple process of how learners reproduce pre-existing activities but rather how they use the knowledge and competencies gained to new situations.

The use of workplace assignments is considered a pedagogical decision of integrating and drawing the links between theory and practice (Billet, 2010). It is through engaging and participating in work that people learn. The tension between the assignments on the course and the workplace practice can be attributed to continued relevance to the workplace practice of the learner-practitioners in a changing and emerging environment.

While the learners have found contextual profiling of the communities, policies and the environmental issues a useful and fundamental learning opportunity, it has also underpinned the tensions on the course between the workplace assignments and the course. The ‘gaze’ placed the issue at the centre rather than the workplace and the occupational tasks; hence the learner-practitioners found it a challenge to continue with the same group identified in Module 1 through to Module 9. Learner-practitioner 1 started with an informal settlement, but ended up implementing her programme with a school.

Restructuring in government departments is a reality. People move between departments or units. Learner-practitioner 1’s movement to “events management” entailed changes in her work over the period of the course as the nature of her work changed. Work is not constant but evolving and the workforce need lifelong learning competencies which they use in any occupation or job to which they progress. Dewey (1974, as quoted in Elliot, 2007) noted that “what is needed in a dynamic social working environment, are skills that can be put to use in new situations and are under the personal control of the individuals who use them”(p. 147).

Through using the capabilities vantage point, it is evident that the opportunities and choices individuals have to practise their competencies vary between the two organisations. Although both work at government institutions, the one learner-practitioner has greater freedom to achieve valuable functionings compared to the other because of the opportunities presented in the structure and the relationship of the job and the course. Some organisations are learning organisations and therefore the opportunities for the learner practitioners to practise their learning is encouraged, whilst in other organisations the productivity model is stressed rather than a learning module (Billet, 2008). Although neither of the two organisations are considered learning organisations, learner-practitioner 2

had a greater opportunity to practise her new skills because they are directly related to what she does, while Learner-practitioner 1 had less of an opportunity in the organisation because she was no longer an environmental educator in her work. Her opportunities were limited to some extent (refer to data in section 4.3.3.5). The concept of “LTSM posed tensions because it was not in line with the terminology of her work”; in the section in which she is now located it would be called “promotional material”. Constantly maintaining relevance to the work context is a challenge because of the changing and dynamic nature of the workplace. Thus focussing on competencies, for example, applied competence¹⁰ as suggested by Olvitt and Hamaamba (2005), is important.

Learner-practitioner 2 tried to exercise her agency in commenting on a brochure developed in her workplace but was told not to comment if she had “nothing good to say”. The opportunities for her for valuable functioning and to exercise her capability were restricted by the dynamics of the workplace. However, similar possibilities may arise in the future, where she may have the opportunities to exercise her capabilities in an informed process.

The role of managers on the course is to enable opportunities within the workplace for drawing the theory and the practice closer. The data (see section 4.5.2) suggests that when a manager was on the course it was easier for the learner-practitioners to implement the projects and programmes that they had designed. In the case of Learner-practitioner 1, however, who did have a line function manager on the course, there were fewer opportunities directly related to her work to implement what she planned on the course. However, this did not seem to be related to the line function manager who indicated that if she had continued to remain in the same unit, things would have been easier for her to implement.

5.6 Conclusion

The analytical statements highlight the key findings that pedagogies underpinned by scaffolding which are situated and develop reflexivity, support learner-practitioners’ freedom to achieve valuable functionings and to exercise their capabilities in real and meaningful ways. However, it is also important for course pedagogies to consider the institutional context in which the new learning and practices will play out. The work and the workplace tasks in the curriculum and assessment need to link more closely to the institutional context. A further realisation is that people need to develop competencies for sustainable development which can be transferred to any job. It was also noted that questions, dialogue, readings, case studies and co-operative methods supported learners to achieve valuable functionings in the workplace.

¹⁰ Applied Competence - integration of foundational, practical and reflexive competencies.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Summary of Research Findings

Capability-centred pedagogical approaches influence learners' responses and engagements with the learning in course sessions and in workplaces, which in turn influences learning environments and how learners' encounter the learning, how they engage with workplace assignments and tasks, and the motivation they develop.

Emerging from the discussions of the pedagogies used on the course, it is evident that scaffolding using dialogue, questioning, real, situated and experiential based pedagogies with a strong reflexive component and underpinned by co-operative learning strategies, contribute towards learners finding personal value and motivation in what they are doing and something they have reason to value.

It is evident that the course pedagogy has supported learner practitioners to develop a "critical frame of mind", created opportunities for learner-practitioners to see other ways of doing things and of hope. It has further fostered learner-practitioners' confidence to engage in socio-ecological sustainability discussion through providing and accessing the conceptual language of sustainability. The pedagogies mentioned supported critical thinking and reasoning and create a strong emotional experience, helping learner practitioners to understand the "world of others" (Unterhalter, 2010) that inspires learner-practitioners to want to improve and change.

The following aspects linked to the pedagogy are viewed as important capabilities in this research:

- Participation in carefully scaffolded cooperative learning interactions supported by reading, the design of the course materials and dialogue and underpinned by open-ended critical questions (section 4.3.2)
- Critical reflexive thinking underpinned by dialogue, co-operative learning enabled by open-ended question, readings and situated experiences (section 4.3.3)
- Conceptual language development through the pedagogies (section 4.4.1)
- Confidence and sense of knowing (section 4.4.1)
- Opportunities to practise their capabilities in the workplace (section 4.4.1).
- Critical mode of being especially through having their voices heard (sections 4.3.2, 4.3.3 and 4.4.1)

However, institutional structures can constrain learner practitioners' agency. However, learner practitioners' identities are evolving and not static because they continue to engage in critical dialogue. They may in the future use their agency further if the opportunities arise, because of the

critical dialogue and questions and processes they have engaged in (Walker, 2009). Walker and Unterhalter (2007) noted a person needs social arrangements that are sensitive to how a person is able to express themselves and give them opportunities for expression; an example is if someone values having a voice as an important capability, then they should have opportunities to be able practice that capability across multiples settings. This has implications for particular forms of classroom pedagogy, management, resources and understanding learners' differences and needs.

It is emerging from the above discussion that it is important to engage in processes of critical reflection to understand the frames currently held. The processes of understanding and “untangling relationships, and becoming aware of one’s own hidden assumptions, ideologies and insights” (ref?) is referred to by Wals (2007) as ‘de-framing’; “Emancipation becomes the process of finding one’s own voice” (Walker, 2010, p. 335). Questions, debates and discussions are critical for the dialogue. When learners start to ask questions, not merely answer them, and education becomes something that learners do and is not simply done to them, it is evident that a critical mode of being is emerging. “Learners should be active participants and co-constructors of knowledge, particularly, as noted by Knowles et al. (2005), adult learners who should engage in self-directed learning.

From the research and the summary presented above, the following three recommendations are proposed for the EETDP curriculum.

6.2 Recommendations for the EETDP curriculum

6.2.1 Recommendation One: *Workplace curriculum design and development with a social-ecological sustainability focus should be an active process of co-construction between learner-practitioners, workplace representatives and course developers.*

Learner-practitioners' voices are a “valuable being and doing” and therefore an important capability for learner-practitioners. They are at the interface of the work and learning experiences. In order to maintain relevance to their work and their personal lives, it is important for learner practitioners to help course developers to understand the learner-practitioners' realities and their identities in a professional and social space. Learner practitioners are learners with “lived experiences” which inform their engagement on courses. Often courses are designed by individuals who make assumptions about what they think they know about the people for whom they are designing and what they feel is relevant. Learner- practitioners' realities are not fully understood and therefore learner-practitioners encounter tensions in trying to implement course processes back into the workplace (sections 4.3.3.5 and 4.2.2). Paraskeva (as quoted in Lotz-Sisitka et al., 2015, p. 75) suggested that considering aspects such as “broader forms of knowledge co-production, decolonisation of thinking, and disruptive competence and agency in and through curriculum,

provides opportunities for a radical, itinerant curriculum process that can allow an understanding of ‘how reality can explode in and change the real’”. The realities of the workplace and truly understanding them can create opportunities for re-thinking and re-imagining course design for greater relevance.

6.2.2 Recommendation Two: *Creative and Innovative pedagogical approaches to capture workplace practices in real authentic and meaningful situations for assessment should be designed.*

The gaze is on the workplace and the curriculum is work. Work-integrated learning requires a re-thinking of the pedagogy on how we expect learners to showcase their change projects in the workplace. Designing assessment tasks into compartmentalised units of learning to assess particular unit standards and specific outcomes is counter-productive to the “democratic project of the NQF” (Allais, 2003). Although learner practitioners found the workplace tasks supported them to “plan properly... and the activities brought about critical thinking...” (section 4.3.3.5) and learners carried some of their learning into their workplace practices (section 4.4.1), the learner-practitioners still experienced tensions in completing and showcasing workplace data as required by the portfolio tasks (section 4.4.2.2).

Klenowski (2002) has noted that with portfolios in the context of a curriculum that is “standards-driven, and values standardisation, there is a great danger that technical, rationalist approaches, that generalise and make superficial the portfolio process, will emerge” and the “process could be trivialised” (p. 9). Comments made by learner practitioner 2 “I just get caught up with everything” (section 4.3.1.6), indicate that she gets absorbed in doing her daily tasks and she does not have time to work on portfolios. This point was further illustrated by Klenowski (2002) who noted that portfolio work for assessment purposes “requires time and effort for conceptual thinking and metacognitive developments” (p. 8) and that this can cause tensions in workplaces as learner-practitioners don’t have the luxury of time in an environment where “quick results in terms of quantifiable outcomes is valued” (Klenowski, 2002, p. 8). As an organisation and also for people working in this field, it is important that we look at other ways of capturing the workplace data.

6.2.3 Recommendation Three: *Workplace courses need social-ecological sustainability competencies that transgress job tasks across occupations which foster appreciation and imagination of new possibilities in the work they do.*

Workers look at job progression and workplace mobility. Workers move from one job into another depending on their level of ambition, expectation, remuneration and opportunities. As noted in the case example of Learner practitioner 1, her job changed during the duration of the course (sections 4.1.4.4 and 4.1.3.6). Also government priorities change based on the policies and practices that

inform them. As a result learner-practitioners need ESD competencies¹¹ that can transcend boundaries and become recontextualised or reimagined in another job if and when the opportunities arise. The course needs to provide “possibilities for engaged, lived experience of transformative praxis for all of our students; to be seen as learning capability necessary for encountering the future” (O’Donoghue, 2014, p.15). The point noted by O’Donoghue contributes to the argument that what is needed are ESD competences in any job and that this should knit together the idea of some type of changed practice as people engage in integrating the foundational and practical knowledge into an applied competence.

Several researchers (Wals,2007; Nussbaum,1997; Glasser, 2007) have made reference to the critical role of learning in the process of “cultivating humanity” and creating “citizens of the world” (Nussbaum, 1997) and a new global ethic. Nussbaum saw learning as part of becoming a “human being capable of love and imagination who appreciates and can be responsible for others and the world” (p. 14). It should be about how learner-practitioners can learn in real situated experiences to inform how they develop a sense of responsibility and empathy for others, as evidenced by Learner-practitioner 1’s experiences in the informal settlements she visited and wanting to “change their lives” through feeling deeply and emotionally connected. Every person has a responsibility to be a “responsible citizen” in any job they do.

Elliott (2007) noted “what is needed in dynamic social and working environments are skills that can be put to use in new situations and under the personal control of individuals who use them. These types of skills cannot be achieved without the deeming of knowledge and perfecting of judgement” (p. 259). He also argued that people attach personal appreciation and meaning to the work they doing and this would then help them carry the knowledge and skills into what they do and will affect their choices and decisions. He noted that curricula should encourage the acquisition of productive skills and nurture an appreciation and liberation of thought” (p. 150). According to Elliot, a capability refers to both capacities for appreciative realisations of value, and a capability for evaluating the relative worth of different functions in choosing a way of life. He linked appreciative realisations to reasoned judgements which are fostered through imaginative engagement with situations which help to enrich lives (p. 150). According to Elliot, Dewey argued that the “imagination” gives things intrinsic value and it helps to make any activity more than mechanical.

6.3 Critical Review of the Research and Future Research

When I explore the research goals and the aims I am aware that perhaps other methods could have

¹¹ ESD competences as noted by UNECE (2011) as quoted in O’Donoghue (2014) are: Learning to know (knowledge), Learning to be (identity), Learning to live together (social) and Learning to do (actions).

been used in the research to gather more data, which may have highlighted further nuanced insights on the two research sites. A large amount of data was generated in the initial phase of the research and needed to be managed appropriately. Setting up Analytical Memo's helped in managing the data. Exploring the workplaces and the practices of the learner-practitioners in the future are important considerations for future research in the space of workplace and work-integrated learning. Research into the different types of jobs and its core functions and tasks require greater depth of understanding so that course processes and workplace practices respond appropriately.

More research on workplace assessment for relevance is required. In a South African context as we engage with the concept of “green skills” and “green jobs” it is also important to understand the various jobs in greater depth, to analyse the realities of the jobs and to research how the courses can be taught and assessed for relevance so that it is a valuable “being and doing” for people.

6.4 Conclusion

It has become apparent in this research that becoming a reflexive practitioner is important towards creating a critical mode of being and in supporting capabilities development where people can see opportunities and possibilities for reframing practices in any area of their development and practice. This study by exploring the interactions between course design and processes and workplace practices has foregrounded pedagogies supporting the opportunities for creating a critical mode of being. The research shows that connections through the use of real-situated emotional case studies and experiences, which are underpinned by aspects of scaffolding and reflexive thinking and facilitated by dialogue, open-ended questions, co-operative learning, reading and experiential opportunities are critical to support people in framing their current practices and reframing alternative ways of seeing the world. However it is also evident through this research that formal assessment processes in the forms of Portfolios constrain and cause tensions in how the practitioners interact with the course back in the workplace. Learner-practitioners need to have opportunities to showcase their learning in real and authentic work situations and to be able to capture the realities of the workplace. This research has helped me reflect critically on how the National Diploma in EETDP is designed and taught. It has taught me a valuable lesson in thinking about course design and facilitation beyond just the National Diploma in EETDP, but into work integrated courses as a whole. Understanding the purpose of the course and its needs in the workplace, as well as the learner-practitioners needs and knowing the importance of people having a “voice” in their own learning and supporting a “critical mode of being” emerge as some of the “valuable being and doings” for me personally going forward

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APPENDIX 1: SUMMARY OF QUALIFICATIONS



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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED QUALIFICATION:

National Diploma: Environmental Education, Training and Development Practice

SAQA QUAL ID	QUALIFICATION TITLE			
22902	National Diploma: Environmental Education, Training and Development Practice			
ORIGINATOR				
SGB Environmental Educators				
PRIMARY OR DELEGATED QA BODY			NQF SUB-FRAMEWORK	
ETDP SETA - Education, Training and Development Practices Sector Education and Training Authority			OQSF - Occupational Qualifications Sub-framework	
QUALIFICATION TYPE	FIELD		SUBFIELD	
National Diploma	Field 05 - Education, Training and Development		Adult Learning	
ABET BAND	MINIMUM CREDITS	PRE-2009 NQF LEVEL	NQF LEVEL	QUAL CLASS
Undefined	240	Level 5	NQF Level 05	Regular-Unit Stds Based
REGISTRATION STATUS		SAQA DECISION NUMBER	REGISTRATION START DATE	REGISTRATION END DATE
Reregistered		SAQA 10105/14	2015-07-01	2018-06-30
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2019-06-30		2023-06-30		

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This qualification does not replace any other qualification and is not replaced by any other qualification.

PURPOSE AND RATIONALE OF THE QUALIFICATION

The National Diploma in EETDP (Level 5) will prepare learners to function independently as entry-level environmental education practitioners. It will apply in particular to unqualified environmental education practitioners working in environmental education centres (e.g. volunteers, interns and part-time guides), and to people employed primarily in fields other than education, but who may develop an environmental education role in the workplace, e.g. field rangers, outreach officers, interpretative officers.

People accredited with this qualification will be able to design, plan, implement, evaluate and improve on a variety of environmental learning programmes. The candidate will be able to design new, original and innovative learning support materials to enrich the learning experience. People qualified at this level will make a meaningful contribution to environmental change through an educational response to environmental issues and risks in a range of contexts and workplaces. They may also be able to function as teachers' aides or environmental education specialists in formal education settings like schools.

Rationale for the qualification:

Many environmental education practitioners have no formal qualification in environmental education, yet they may be required to develop, implement and evaluate environmental learning programmes and resource materials for adults and children in a range of contexts. These may include environmental education programmes at natural or cultural heritage sites or in community settings, or environmental health and safety programmes in the workplace.

Whereas the National Certificates in EETDP at NQF levels 4 and 5 equip candidates to operate as assistant environmental education practitioners, the National Diploma at level 5 will prepare an environmental education practitioner to operate independently in a non-formal education context.

Having a diploma qualification and unit standards at this level will make the framework of environmental education qualifications more flexible and accessible and enable candidates to obtain recognition for their knowledge and experience in this sub-field. It will also enable organisations training and employing environmental educators to structure training programmes in accordance with nationally recognised standards.

Candidates who obtain the National Diploma in EETDP (NQF Level 5) will be able to register for an education qualification at level 6 on the NQF. The level 6 qualification will give them access to higher qualifications in the field of education, which in turn may open access to the Educators in Schooling sub-field.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

The learning assumed to be in place is an Further Education and Training Certificate (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 or 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 qualification could therefore be awarded as a result of RPL in the workplace.

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

This qualification consists of Fundamental, Core and Elective components. Learners must complete the following unit standards:

1. Fundamental Component:

All the unit standards listed as Fundamental totalling 40 credits.

2. Core Component:

All the unit standards listed as Core totalling 175 credits.

3. Elective Component:

Learners are to choose unit standards totalling at least 25 credits from the unit standards listed as Elective. It is preferable that learners choose Electives that together make up a specific specialisation.

EXIT LEVEL OUTCOMES

People with the National Diploma in Environmental Education, Training and Development Practice (NQF Level 5) will be competent in all the core unit standards from the National Certificate in Environmental Education, Training and Development Practice (NQF Level 5) in addition to the unit standards specific to the National Diploma. These two sets of unit standards are listed separately below:

Outcomes specific to the National Certificate in Environmental Education, Training and Development Practice (NQF Level 5):

- ☐ 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 resource materials and develop own supplementary learning aids
- ☐ Network broadly in order to source information and support around a key environmental issue or risk
- ☐ Research and analyse an environmental issue in the light of principles of environmental justice and sustainability and recommend possible solutions
- ☐ 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
- ☐ Identify and support learners with special needs.

Outcomes specific to the National Diploma in Environmental Education, Training and Development Practice (NQF Level 5):

- ☐ Design, organise and critically evaluate an original environmental learning programme
- ☐ Critically evaluate a range of environmental learning programmes in different contexts
- ☐ Develop original learning support materials for an environmental learning programme
- ☐ Analyse a range of environmental issues and propose appropriate educational responses for different contexts
- ☐ Take action to address an environmental issue
- ☐ Manage a learning environment appropriately for a learner group
- ☐ Develop learning programmes to enhance participation of learners with special needs
- ☐ Participate in and contribute to an environmental education network, committee or working group
- ☐ Demonstrate an understanding of the relevance of policies and conventions to environmental education
- ☐ Investigate options for improved environmental management and sustainable living

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 (February 2000):

- ☐ 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, covering in particular environmental education in teacher education. A survey of environmental education courses from the Asia-Pacific region, New Zealand and the United States of America indicated that the content of this level 5 qualification compares well with the knowledge, understanding, skills and value orientations covered in international courses.

ARTICULATION OPTIONS

This qualification has been designed to articulate with the Level 5 National Certificate and with the Level 6 Bachelor's Degree in the sub-field Environmental Education, Training and Development Practice.

It has also been developed with reference to existing and draft qualifications and unit standards, in particular unit standards from ABET, Tourism and Conservation. It is likely that related fields and sub-fields will in turn be able to draw on unit standards from this level 5 qualification.

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 basis.

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.

REREGISTRATION HISTORY

As per the SAQA Board decision/s at that time, this qualification was Reregistered in 2012; 2015.

NOTES

1. 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 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.

UNIT STANDARDS:

	ID	UNIT STANDARD TITLE	PRE-2009 NQF LEVEL	NQF LEVEL	CRED- ITS
Core	8618	Organise oneself in the workplace	Level 2	NQF Level 02	3
Core	13662	Fulfil administrative requirements of an environmental learning programme or action project	Level 4	NQF Level 04	3
Core	13674	Identify and support learners with special needs	Level 4	NQF Level 04	4
Core	13667	Reflect on own facilitation performance as an environmental education practitioner	Level 4	NQF Level 04	5
Core	13668	Work ethically and professionally as an environmental education practitioner	Level 4	NQF Level 04	3
Core	13655	Analyse a range of environmental issues and propose appropriate educational responses for different contexts	Level 5	Level TBA: Pre-2009 was L5	6
Core	13648	Apply appropriate social protocols in the workplace and community	Level 5	Level TBA: Pre-2009 was L5	4
Core	13649	Apply fundamental knowledge of environmental ethics to a field of work or study	Level 5	Level TBA: Pre-2009 was L5	6
Core	13653	Critically evaluate a range of environmental learning programmes in different contexts	Level 5	Level TBA: Pre-2009 was L5	6
Core	13650	Demonstrate a general understanding of people-environment relationships and current environmental challenges	Level 5	Level TBA: Pre-2009 was L5	16
Core	13646	Demonstrate an understanding of the relevance of policies and conventions to environmental education	Level 5	Level TBA: Pre-2009 was L5	4
Core	13632	Demonstrate knowledge of environmental education goals, principles and methods and their appropriateness in different contexts	Level 5	Level TBA: Pre-2009 was L5	4

Core	13641	Design, organise and critically evaluate an original environmental learning programme	Level 5	Level TBA: Pre-2009 was L5	8
Core	13643	Develop learning programmes to enhance participation of learners with special needs	Level 5	Level TBA: Pre-2009 was L5	6
Core	13654	Develop original learning support materials for an environmental learning programme	Level 5	Level TBA: Pre-2009 was L5	10
Core	13635	Implement and evaluate an environmental learning programme	Level 5	Level TBA: Pre-2009 was L5	6
Core	13647	Investigate options for improved environmental management and sustainable living	Level 5	Level TBA: Pre-2009 was L5	16
Core	13642	Manage a learning environment appropriately for a learner group	Level 5	Level TBA: Pre-2009 was L5	6
Core	13637	Network broadly in order to source information and support around a key environmental issue or risk	Level 5	Level TBA: Pre-2009 was L5	4
Core	13644	Participate in and contribute to an environmental education network, committee or working group	Level 5	Level TBA: Pre-2009 was L5	6
Core	7978	Plan and conduct assessment of learning outcomes	Level 5	Level TBA: Pre-2009 was L5	15
Core	13640	Research and analyse an environmental issue in terms of principles of environmental justice and sustainability and recommend possible solutions	Level 5	Level TBA: Pre-2009 was L5	8
Core	13651	Review a variety of approaches to learning, teaching and evaluation	Level 5	Level TBA: Pre-2009 was L5	4
Core	13636	Select, adapt and use existing environmental learning support materials and develop own supplementary learning aids	Level 5	Level TBA: Pre-2009 was L5	4
Core	13634	Select, plan and adapt a contextually-relevant environmental learning programme	Level 5	Level TBA: Pre-2009 was L5	6
Core	13656	Take action to address an environmental issue	Level 5	Level TBA: Pre-2009 was L5	12
Fundamental	8647	Apply workplace communication skills	Level 5	Level TBA: Pre-2009 was L5	10
Fundamental	14582	Develop and apply academic literacy skills	Level 5	Level TBA: Pre-2009 was L5	25
Fundamental	13925	Present information in a public setting	Level 5	Level TBA: Pre-2009 was L5	5

Elective	9950	Plan learning events	Level 4	NQF Level 04	10
Elective	123394	Develop outcomes-based learning programmes	Level 5	Level TBA: Pre-2009 was L5	10
Elective	9954	Develop training materials	Level 5	Level TBA: Pre-2009 was L5	12
Elective	123397	Evaluate a learning intervention using given evaluation instruments	Level 5	Level TBA: Pre-2009 was L5	10
Elective	9938	Evaluate learning programmes	Level 5	Level TBA: Pre-2009 was L5	12
Elective	117871	Facilitate learning using a variety of given methodologies	Level 5	Level TBA: Pre-2009 was L5	10
Elective	9957	Facilitate learning using a variety of methodologies	Level 5	Level TBA: Pre-2009 was L5	18
Elective	115441	Understand school management and leadership in the South African context	Level 5	Level TBA: Pre-2009 was L5	10
Elective	115439	Manage policy, planning, school development and governance	Level 6	Level TBA: Pre-2009 was L6	20
Elective	115436	Manage teaching and learning	Level 6	Level TBA: Pre-2009 was L6	20

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:

NONE

This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Primary or Delegated Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Primary or Delegated Quality Assuring Body should be notified if a record appears to be missing from here.

1. Delta Environmental Centre

APPENDIX 2: A VIGNETTE PIECE

Vignette: Observation of Meeting

This meeting was observed on 27 July 2010 at Provincial offices.

The assistant director requested the events management team to re-group to touch base on the arrangement for forthcoming events. Meeting lasted 2 hours.

The Assistant director welcomed everyone and noted that she felt they should look at progress for the different events that they are organising. First item on agenda was the 12th EIA open day. Learner-Practitioner 1's colleagues provided feedback on the procurement of CD's and the development of the banners for the events. During this time, Learner-Practitioner 1 was making notes and recording in her diary as well as listening. The Assistant Director asked questions and made suggestions on possible things to consider e.g. if all documents were ready for the presentation to Joint Organising committee (JOC). Learner-Practitioner 1 noted that they were still waiting for the health certificates. Assistant director asks Learner-Practitioner 1 and her colleague to contact the security company and get their presentation to help provide the background. Learner-Practitioner 1 and her colleague also discuss the CD's and Learner-Practitioner 1 suggests that her colleague goes to a computer shop to get some of the items she needs.

The next item of discussion was the MEC's Open Day. It was discussed that on the MEC's open day it is only Learner-Practitioner 1 and Petunia (name changed) working. Learner-Practitioner 1 and Petunia (name changed) indicated that on that day they were handing out apples and therefore would need people. Assistant Director indicates that Learner-Practitioner 1 and Petunia (name changed) should liaise with Miranda to help sort out the banners for the event. She then asks them if they decided who will be doing registration. They note that it will be them. Learner-Practitioner 1 is fairly quiet during the discussions.

Next Event on discussion is the female farmer: Assistant director asks how many job cards have been sent. The group note that three job cards were completed. A discussion occurs about the floor plan, drinks vouchers and the management of it for the guests, the room has to accommodate about a 1000 people and they need to consider this when planning on how to serve meals and manage the drinks e.g. one waiter between two tables. Other aspects considered during the discussion are the name tags for all guests and the officials, the GPG logo on cards and the attire of the staff on the day of the event. Learner-Practitioner 1 notes that a colleague mentioned that he had uniforms and nametags and suggests that all officials should wear the uniform and tags to help identify them. It is discussed that the service providers and their crew would be identified through tags on the day.

Discussion then moves onto identifying a programme director for the day. During the discussion they discuss issues of protocol e.g. if the Premier would attend the meeting then the MEC would be the programme director, but if not then they would need a programme director. Learner-Practitioner 1 suggests they think of Jerry Van Sedi. She asks for clarity on whose job it would be to source the programme director.

Jobs and tasks discussed and settled between the group. Discussion moves onto banners. Learner-Practitioner 1 notes that she sent through a request to Delsa (name changed).

Justine got quotes for banners. They need 6 in green and white. They Justine (name changed) was asked to procure the banners.

The Director in whose office the meeting was notes that they have submitted the job card for the section banner. What they want written on these banners is an opportunity for the department to input on it.

Petunia (name changed) talks about the vision and mission. Learner-Practitioner 1 notes that perhaps think carefully about what they want to achieve with the banners and then decide what they want on the banners.

Other issues discussed focused on the transport arrangements for staff to the venue and the recording of the event with photographs.

The discussion then moves on to the National Farm-workers Summit in Capetown. Assistant Director asks them "where are all the materials" that they are taking for the summit. Resources they will be taking is 6 boxes of the (Environment Matters series books – NB these books were specifically designed for learners and teachers – discussed on the course in the module on LTSM mod 6). They want to give the books to promote awareness. Modules discussed are the Water, air and habitat. The target audience that they are expecting are the rural female farmers. Think they could take it home for their children.

Boxes are heavy so they will need to courier them. Need to work as a team. Assistant Director asks them to phone the warehouse and tell them they need it for an exhibition. Ask them how to courier them to Cape-Town. Assistant Director notes they should not take irrelevant materials.

Learner-Practitioner 1 is very quiet and does not comment or say anything.

Meeting concludes and everyone moves back.

APPENDIX 3: TABLE 4.3 - SUMMARY OF LEARNING TASKS, ON COURSE TASK AND WORKPLACE TASKS AS SCAFFOLDING PROCESS IN MODULE 3

Type of Task	Description of Portfolio Task	Scaffolding Method Used
Learning Task	LEARNING TASK 1 PART A: Read the article <i>Elements of Effective Environmental Education Programmes</i>, which is included as Annexure A. Follow the prompts and highlighted aspects as you read. Use the following reading guide to help you unpack core elements of the article. READING GUIDE: Use this guide as you read through the article. Answer the following questions based on the article. ❖ How is an environmentally literate citizen described in the article? How is environment viewed? ❖ What was the Tbilisi Declaration? What is its significance to EE? ❖ The article discussed the policies guiding EE in the USA. What are the policy imperatives supporting EE practice in South Africa? ❖ How does the article view context and relevance within EE programmes? (At which levels? Explain.) ❖ What are the roles of stakeholders within EE programmes? ❖ What does the article discuss on awareness, knowledge and skills to take action on environmental issues? How are these related? Why? ❖ By discussing the need for 'best practices' the article highlights the importance of considering appropriate methods. What does it discuss related to learning and learning theory? Why do we need to consider these when we develop EE programmes? What does the article discuss about programme evaluation? Why is evaluation necessary within EE programmes? LEARNING TASK 2 Developing a mind map exploring approaches to environmental education: Read through the two sets of guiding principles for Environmental Education (Tbilisi and Earth Charter principles). Highlight all references to methods and approaches to education that emerge for you. Develop a mind-map that highlights key methods and approaches to environmental education that emerges from your study of the goals and principles. Read the principles and select 3-4 that are closely linked to your work and that will inform and shape your programme development	Reading of a case study. Use of open-ended questions as prompts towards developing an understanding of concepts and processes in designing environmental learning programmes. The use of mind maps to scaffold learning: The mind maps act as a process for the learners to conceptualise and categorise concepts from the reading.

On-Course Task	On-Course Task - PoE TASK 1: This task will be done on course. You will be working collaboratively in a group. Remember environmental education (EE) learning programmes 'are an integrated sequence of planned educational experiences, activities and materials designed to reach a set of defined objectives'. Within this task you are going to ADAPT a short educational programme. Adapting means looking carefully at aspects like: context, content, objectives, methods, support materials and deciding how you can adjust and change to suit your learner group and context. You will be given a planned educational environmental programme.	Working in a group is an example of a scaffold. This is an example of co-operative learning where the learner-practitioners co-constructs learning from peers, working in a safe space with a more knowledgeable other who can provide support.
Workplace Task	Workplace Task - PoE TASK 2: This is an individual task. In this task you will be required to design an ORIGINAL learning programme. You will then need to organise the implementation of that programme, gather feedback and use feedback to improve your programme. PART A: Describe the context and learner group PART B: Designing an environmental learning programme	This is an independent task. The two tasks before, namely the learning task and on-course task help the learner-practitioner to be more confident in completing this task because he did it previously with guidance.

APPENDIX 4: ANALYTICAL MEMOS

ANALYSIS AND CODING OF DATA RELATIONSHIP BETWEEN COURSE AND WORKPLACE Analytical Memo – AM 8

Data Source	Line Reference	Quote	Methods and course processes	Capabilities	Social learning processes
Mpumi 23 rd July 2010 12h30 DEC	25-26	Mpumi: Ja the implementation part. To know the guidelines, the laws that ah guiding us and that will also assist me in my EE.	contextualised to workplace situations		
	104-107	Mpumi: ja it is the Delta course. So what we are doing, are we having an impact on the community or are we just doing for the sake of doing because we government and we need to also submit a report that in 2009 we spent our budget and we did this number of clean up campaigns.	Reflection	Critical thinking	Framing current practices and deconstructing workplace practices by asking questions of herself and her work.
	115-119	Mpumi: Ja I am .. I am .. I am. And now that I've my daughter comes home with all these terms now I understand like how they use assessment. To me assessment was like a test. Now this week Ive learnt more on assessment. And I find that when I was in standard 2 or the sub B back then what she learning now I did in standard 4. I see there is a huge gap between me and her.		Seeing opportunities in personal life.	
	243-246	Mpumi: I have to pick, not all of the events I am involved in, Ja. Maybe the sustainable resource management would be a link, the EIA would be relevant. The clean ups would be relevant. You remember the last time my topic was on waste management. So maybe that is the link. But not with the entire scope of my work.			LP still struggling to find direct link between work practices and what she is learning on the course even if she is asking herself questions.
	309-314	Interviewer: Do you'll make any specifications in terms of the paper you'll use or any decisions on the environmental impact of the invite. Mpumi: Ahhh. No, No not really. But we have now we have taken that into consideration. Is there any other paper that we can use or is there something we have used and is there something left.	Reflection		some simple examples of reframing of practices in workplace, but Lp does not feel it is significant enough.
	318-321	Mpumi: For me its From my studies. And now and again you have these messages, keep the environment clean. Think twice before you print this mail. Try and minimise as much as you can. Though my colleagues are purely communicators. They're not in line with me and what I'm studying. So I am slowly, slowly penetrating.		Seeing opportunities to change own practices. Using her agency.	LP starting to reframe her practice and trying slowly to convince her colleagues.
	330-334	Mpumi: Those are communicators. Communicators will communicate. To them, the tools the technology part of it they are more into that. Unlike me I would think. Like most of the times now I would use my computer. Then instead of printing now and then In what ever way I can give you the information I can give you on a stick on a lab top. Then you can go through whatever and like that.	Reflecting on her practice	Critical consciousness Changing her own personal workplace practices.	Reframing practices through making decisions and choices to not print.
	338-340	Mpumi: Then like in sending the reports out, I would like refuse to print. I would like email. If you want to print, then there is that signature, that says think twice before you print this email.			
	344	Mpumi: Ja. Do I really need to print it. Ja. I would look and then print down in my			

415-419	Mpumi: You know I've realized that this course is lifelong learning. You know back then we would learn theory and then forge some of the things. But here it is different. You talk about the real thing. So whatever it is, you have to provide evidence. Its like if Im writing an essay and I say I went I went, then I have to provide evidence. That's when the critical thinking part comes in. You put yourself into this in whatever you do.	real situated and contextualised learning	Critical thinking	"You put yourself into this in whatever you do" Deconstructing and engaging self in every way in the course
434-435	Mpumi: The level of thinking. From day one when I started upto now. Then I am a different Mpumi.		Deep levels of thinking - feels a sense of transformation in self	
439-440	Mpumi: For me I didn't have any environmental background. But now I can stand up in a capacity building workshop, and you'd swear that I am a pro.	Reflecting on self.	Sense of confidence Self pride in being able to be treated as a dignified being whose worth is equal to that of others	
444-445	Mpumi: The way I explain myself and talk confidently of the stuff that I know. Then you would say that one she is an environmentatlis. And then one day I will be there.	Reflecting on self.	Deep sense of pride in self and confidence and belief in own abilities.	
449-453	Mpumi: Ja, I am confident. Looking at the time when I was conducting that stakeholder engagement when I was in charge of planning my two day workshop what is it that I want in my workshop, this is how I want it, this is how I am going to introduce my speaker, this is how I am going to do it, this is how I want my programme of the day. Then I am in charge.		Confidence and also ability to reason about choices and decisions.	Evidence of thinking carefully about decisions and choices she made and how she would frame her practice.
457-458	Mpumi: Ja, Ja. Back then I didn't have facilitation skills. But after done the facilitation skills, I'mmm the one.		Confidence through knowledge and skills gained on the course.	
462-467	Mpumi: The planning. The actual planning. The whole, the group management, the different types of groups and how to handle them. That for me , cannot be separated. Because they run concurrently. And this course that we doing, there is no at the back of my mind. You have to show what Im talking about. You cant say at the back of my mind sperate sheet where you write your thoughts. That is your third piece evidence. That while I was doing this, these were the thoughts that were coming.	real examples and practicing new ideas Reflecting and showing implementation	Level of thinking on the course	Deconstruction of the learning.
471-472	Mpumi: Ja, these are like reflective thinking. Though sometimes I happen to go through my notes, but if I go through that sheets/ information then I am able to find them.	Reflection through looking at work notes and tasks		
483-489	Mpumi: Yes, especially now when we had the EIA open day. The big guys we had there , you can say this people talk money. Starting from the dress, the language they use during their presentation. I happen to now understand. I happen to have this my target audience clearly defined within me. And selecting when you have this type of audience, then this is the way to conduct yourself. You can be at their level and they accept you and then you can interact. When we had the EIA open day, then you had these guys sitting with their labtops, phones.	Real contextualised and situated examples.	Sense of confidence - through understanding her group	Framing practices due to understanding who they designing for.

	493-496	Mpumi: Ja, Ja I do. I have it now. I mean it is a different directorate and giving support to different groups. Sometimes it's a farmer, sometimes these environmentalists, Then put them here. These people are far, far different, and community work and an NGO. Then really we have four different people.	Working with real examples contextualised		Able to distinguish the groups she works with.
	500	Mpumi: Through these directorates, they know their stakeholders.			
	512	Interviewer: What challenges you experiences in completing the taks?			
	514	Mpumi: It would be easier if the group was organized here in Delta and I could come			Some tensions in completing the formal assessment tasks as it is currently.
	517	Interviewer: It sounds like you struggle to incorporate the task with your actual work?			
	519	Mpumi: Im not, In a way. But our challenge is that honestly if I can put more effort then			
Mpumi Line Function Manager (I5) 16 th July 2010 14h15 DEC	50	Belinda: Ok, so her output in this case would be to check the target audience, that would be invited for			
	55-56	Belinda: So those would be the developers and the developers and if you look at the LSM of the developers, then they are mostly white people, they are learned and they are the people and they are			
	76-77	Belinda: they, they register them and make sure the equipment in the venues, and the equipment that is required is there, and they book the time to say begin from this time up to this time.			
	134	Belinda: she needed to know her NEMA principles, because she would be standing in front of the	Relationship between what is taught and how it is taught.		
	153-155	has got that loyalty, that if there can be a need now that she goes back to where she was, as long as we have agreed that she goes back, she will be passionate about it. So she is a person who is passionate about her job as long as she has a grip of what is her job description. And she is a quick learner.			
	190	Belinda: Of report writing, business writing, ahhm that how you you carry yourself, your business			
	207-211	Belinda: Ja where she was before, because she couldn't even apply for a post for higher than where she is now, because that is where now they would require the qualification of national environment at whatever NQF level they needed. This would give her the opportunity to actually on issues of implementation, on issues of environment or the EE programme that we do it in the workplace, then she can take that opportunity and apply for a post higher than where she is now. Ja, so I think it can		Education enabling Progression in her job	
	219-223	there is one aspect where they must go to the Joburg municipality and they must go and ask for permission to perhaps involve issues of safety and security and they can only do that with the Joburg metro. But the process that it takes for the Joburg metro to approve their event , to say they can go ahead with their event they need to submit and present something like a POE. A portfolio of evidence. A thick document	Process of Portfolio Development as a pedagogical tool.		

227-238	Belinda: And in that POE they must actually have a layout of the venue. Now that actually means that they must actually go to the venue. actually know how many exits are there, how many toilets. Now the layout must actually tell. Now Mpumi must actually tell, or convene the Jmetro people. The design and the way in which she presents is the way we are doing it here. Like Im saying it is more like we are doing our POE here. Now she is a specialist in that area. Which I think is a skill she has learnt here at Delta. To say if shanu says a POE is not complete it when you have actually not told JMPD, in terms of how are you going to take care of a person who has collapsed because they have a low sugar level. Now Mpumi in her presentation must have it in her presentation and she must say that on the day of the event we are going to invite the ambulance services, either from the Metro during the week or from the private emergency services if it is over the weekend and over public holidays. But the way that she does it, that is why they were happy when she joined that unit, she is so good at it.	Process of Portfolio Development as a pedagogical tool.	Knowledge and skills of the course becoming a valued being and doing.	Compiling of documents in the work-place for JOC and presentations. Re-situating the course processes into the workplace in real and authentic ways which are contextualised to the situation.
250-257	Belinda : Ja I think she has. Because there was a time when we were doing monthly presentations on our reports, how many events were done, what where the challenges, and if there was challenges how we plan to handle those challenges. So I think now she can actually stand in front of the audience of her peers and and not stammer and have that confidence to stand in front of them now and be very factual. Very very very factual. Because before she would talk and you would not comprehend to say what is she talking about. Now she is very factual. This shows growth in terms of her involvement in this course. I think it has actually helped her to comprehend concepts. Because it comes out now in her presentations, which was not the case before.		Confidence has been developed through developing the language and understanding of environmental concepts.	She is reframing her practices at work to incorporate the concepts learnt on the course.
261-267	Belinda: The concepts like household food security program and to understand the food security in the Gauteng Province. You know before she would talk about just poverty and just poverty and not be able to link it to the food security concept within Gauteng. Now this would tell you, how much are we contributing as a Province now into the food security programme. We are not the only ones doing it. Social Development they also doing it in their own different programmes., So now if they were able to see our own household food security is contributing to the food security of the country then you say they understand the difference in the concepts which was not the case before.		Seeing opportunities to broaden her understanding and to do research. Seeing connections.	Linking broader issues to the topic of food security.
282-285	So what are your challenges. I see her doing this and this is where I see there has been a great improvement. Because I used to be doing that at that level of assistant director but if then can now give it to Mpumi, then I can also say that it is a job well done to myself as well. Because I started her and now she is getting greater responsibility. So I see that as as a linkage to the course.		Achieving valuable functioning's by being able to be assigned more responsibility	
290-291	Belinda: I see her doing that. That takes a great deal of work. It even takes them visiting each individual farmer so that they fill in a questionnaire. There are certain criteria.			

314-325	Belinda: Our mmm, like when we are doing now, here I think it goes much further. Here we must utilize a correct tool for a correct method. In terms of agriculture we just compile it or design it according to perhaps what is national saying. National may say an up and coming farmer that must meet this criteria. Must be a person who has farmed for two to three years. So that must automatically qualify. So we develop the criteria here. But Mpumi just take it as they have developed it and implement it. These were somethings we where thinking about when designing learning programmes about knowing our target groups all the time. You know I see a great deal of improvement. As I am saying she has been my case as well. I I always get happy when I see her moving a step ahead and I can see when she has moved from one level to the next. Ja and there was a time when she applied for a senior post, at the level of a principal,		Achieving valuable functioning's in her job as seen by her manager.	Line function manager seeing improvement in her job where she is doing things with better understanding.
330-338	Belinda: Ja and the way in which she answered questions, that was before she came to Delta. You could actually pick up that she has no background, no information. As much as she had done the research, it was limited. But now there is growth in her scope. She can actually quote you know things that she has learnt at Delta on issues of the EE program. She can quote all of those principles, the Tbilisi . She has got a background knowledge of which she didn't have before. Interviewer: Ok, so you see a change in her thinking, in her which is the way she is thinking. Belinda: Ja I see a change. There is still room for her to even learn more, and I would want her to		ability to see opportunities	Evidence of enhanced and reframed practices in the workplace due to improved knowledge.
340-341	were actually more of a barrier for her and maybe not also having opportunities, but I think she is now seeing opportunities and making use of those opportunities.			
344-352	Belinda: Like, she actually applied for the events management course at Damelin. That was an opportunity she grabbed with both hands. So that is why she said to me I want to go and explore, what is this events management. I want to see how much I can go in terms of the course and see how far I can go with applying what I learnt from the course into the field. So that is why I say that I think that she is seeing opportunities. She might also want with this ee course want to venture into the sustainable resource unit. She may walk in there and say I have this qualification, make use me. She would want to know what am I missing out on the real issues of environment perhaps on issues of policy, how to develop a policy on issues of environment. I see her going there, because she is seeing opportunities now and may want to grab them and see how much she wants to go interms of them.		Seeing opportunities in the workplace for development.	
358-360	some of the stuff she did when she was a PA to Sipho. Because she might be familiar with the spreadsheet but not the budgeting breakdown per se, because she may have done that while working for Sipho.			
365-368	Belinda: I think there is, because the people that does events within her section, it's their responsibility to go and advise each of the branches in terms of how much each event will cost. So it means breaking it down to the venue, the food the service provider you know all issues of promotional materials, brochures..			

372-376	Belinda: They look at the brochures in terms of what materials are required for this particular event and then they advise the branch to say this is the type of material you can develop because this is the type of material that will be relevant for this target audience. But this means costing, each and every item means breaking down into costs, and saying your event can cost you R2million or R500 thousand. Now it is her responsibility to do that.			
388-391	Belinda: She has always been putting reports but just in terms of concretising the content then it would just be my responsibility or Claurina's in terms of putting factual. Which was an area that was lacking before. But then it improved and like I am saying she needed to have an understanding of concepts in order to tighten her reports. But she does right reports.			Report writing skills are improving - a reframed practice.
409-419	this unit and this deadline to meet for this unit. So hence when we get in to it, we sink and it becomes difficult, but the tasks themselves are not difficult. And if all of them were reporting to me I would make sure I make time. Because I am also involved. But when they go back to the office they reporting to different people who would say I want my report I'm going to this meeting. And then we all get swallowed into that. Ja but its not difficult at all, or that they are not understanding them. It becomes an issue of do we give them to our supervisors when we arrive at work to say this is the new information that we have learnt, give me time to to implement and then perhaps so that I can link it to my workplace. When I arrive at work there is a different priority that is there which is perhaps set by the standard of the Unit. So it becomes difficult for me to say can I link this that I brought you know but in my own report writing at the end I can say let me link it to what I learnt at Delta. This new information now.			Tensions in implementing the stuff from the course directly into the work-place exactly as required from the course. Priorities and time are two critical factors. Also keeping managers informed of work from the course.
425-438	Interviewer: But ok the task that Mpumi had, of actually following through with the group in the first module, to doing a contextual profile then going into actually designing a programme for the group and then actually implementing it with the same group. Does that work within your workplace? Belinda: Aaaa. It is difficult for it to work, because there isn't much of a room for it. To a point where I can go to my director and say can we do it according to this portfolio. Because now I will be presenting it against something that is different, maybe a template that I will be given at work to say link it here but in in our section, in stakeholder engagement it is much much easier. But now for Mpumi to go back into her events program now and doo the same thing and to implement with a group and say put it into a programme for the month, use a budget identify like when we do our workshops, it becomes difficult for her, because she is no longer within stakeholder, where in we use the same method of conducting workshops, and perhaps saying I can present an environmental programme in front of an audience. So in that way then it becomes difficult because her job has changed.			Changes in job make it difficult for her to implement the new learnings directly as learnt on the course.
442-447	Belinda: Her job has changed. With us then it is much easier to say link it to my capacity building programme. Then I only address issues of environmental education and awareness. Then I talk about the policy of environment. It is easier for us then, because we can design it the way we want. So we can take the implementation plan of my group in Freedom Park and say I can talk about their challenges in terms of recycling. Why cant they recycle. You know I will be the one managing that programme. But for Mpumi now that is difficult.			

	451-460	Belinda: Ja we are influenced by what the politicians actually think are the priorities. Like now. The Clean and Green campaign has a five year strategy. And the greater emphasis within the clean and green campaign is the environmental education programme. So what we have learnt here, in the next five years its going to be very very relevant, because it has come as a new priority for the new Primeir of Gauteng. And that five year programme was developed by us. Yes, so now they are saying that before we go and try change attitudes of a particular group, we need to go and do an environmental education for them. So what it means then is that we need to design a program for them on environmental education on issues. That are a challenge for them. They must raise them and then we must see how we can bring about solutions together with a group. But that is on the clean and green campaign for the next five years.		Opportunities may not always exist immediately. May use what they learnt on the course if and when the opportunities arise.	Reframing practices will emerge when they have to make choices and decisions relating to their work prioritise.
	465-466	growth for her to be involved in this five year plan. It is going to be exactly what we have learnt here in Delta for the next five years. Implementing up there.			
	469-472	Belinda: All target audience. Schools, communities, NGO's. Ahhh. Business and the youth in school and the youth out of school. So that is what is interesting, because now everything we have learnt here now, in the next five years, we've got space to actually utilize all of the principals we have learnt here. And the methods and how to design a tool in terms of the environmental education and awareness.			
	478	Interviewer: So this is actually core training.			
	480-482	Belinda: You know this is core training for us. Lerato is here and she is Mpumi's case as well. She comes from a background of being a PA. But now she is doing projects. Particularly on stakeholder, where we now asked to implement the five year strategy.			
Interview 2 (Nellie) Date: 10/02/2010 Venue: DEC	251-253	R1: It is ... because it is... Im implementing this program in a school. Even if it is tiny step towards greening the school which is one of the prioritise of our work. Doing this would help them to build up a portfolio towards other projects, e.g. BKB, EYE program.			
	257-264	R1: I have.... I have because like... Im trying to think of one example I have done so far . Maybe in terms of mentoring the learners. Because it is part of my job. So all the methods I learn here, I go back and use them, so like if they have or battling with one activity, I wouldn't tell them exactly this is how we need to do it. I would put it back to them and say how would you go back to doing it, and they would discuss it amongst themselves and solve that particular problem themselves. So and and at the end of the day, I just realised that working with them also highlights some of the methods and the stuff I learn from here. Mmmm.	Using practical reason to engage in critical reflection and problem solving independently	Knowledge of methods and skills ... Problem solving and critical thinking.	Uses the knowledge and skills learnt on course and re-situates it to own context e.g "methods used ...discuss and the solve the problem amongst themselves"
	269-274	R1: they are ... it is a lot of work . But it is helping. Because now what I do at work I am conscious of how I do things and why I am doing them for instance ... but it is a bit challenging because some of things that we are supposed to do things, I now wouldn't want to do them, or do them in the way that they want us to do them. Or I would want to know reasons for everything we do, I would maybe want to know reasons, methods, maybe to say why am I doing it like that.		Critical thinking and practical reasoning	Causes tensions at work for LP because experiences some moral and ethical tensions in not wanting to do things as they currently do it. Framing and deconstructing practice and has a need to reframe alternate practices.
	276	Interviewer: So you saying that you are questioning yourself.			

278-280	R1. Jaa and everyone else and this causes problems. It does, I'm experiences these tensions. Because some of the things I would talk about they wouldn't understand. Even if you tried to explain. I remember that we once debated about the "term issue"		Using her opportunities to introduce new concepts and ideas into the workplace.	Introducing new concepts into the workplace can cause tensions depending on how it is presented.
284-286	R1: jaaa. We were talking about, we where outlining BKB themes or something and I said any problems we have, we call them issues. And we were debating about that and why do you call them issues. Some were saying, no its not issues.			
291-295	R1. MMm exactly. They were saying, because for instance, if I was saying issue, they would want to define them in terms of general English terms. They would want to call them ... now I can t remember exactly what they would want to call them but ... it environmental problems they said they would not see them as issues. They said you would have a problem and they you would have issues relating to the problem.			
299-301	R1: I am and that's why I think I was suggesting that after this course I go to one of these environmental centres we developing and just do my learning programmes there. And try to make the environmental centres functional.			LP sees opportunities as limited for herself and difficult to re-situate the course in her workplace practice.
303-304	Interviewer: So you thinking of maybe moving to the EE centres and taking it and running it.			
306-311	R1: mmm, mmm That is what I am thinking of doing and running with it, because developing educational programmes, from the office, or where I am now, would be a challenge. because I am working with Bkb and now for me running a BKB program from an environmental centre would be much easier, than running it from the office. Because having the full program for water, or waste etc, would be much easier, than from the office.			LP experience tensions in current job because of workplace systems and structures.
326-330	R1: I think that it would relate to age group rather than gender. They don't understand much about environmental issues. Every time you talk about environmental issues, its had to relate. It is hard to speak about what I do, because they say, what interests them about my work, is that we are not office based and so and that is not what is important. It is a quiet a bit difficult because their focus in not on the environment ...			
334	R1: ya.. so it is a bit difficult... to marry the two.			
337	thing that helped you learn, was the fact that the facilitator was pushy. Explain this for			
383-384	less sentences. So of the things I use I am trying to think of something I used at work. I cant think about something now, but most of the things I take back.			
389-398	is sometimes, just a waste of my time and my skills. You know that I sent you that flyer for the community in Thembisa. I even commented to Leboghang that you can see that even after all the comments that I gave you I can see that it was just a waste of your time an money sending me to school. Because in just seeing the brochure without even reading the text I could just see that the community for which we were developing it for it was too much information, it was too clustered, what are we trying to say to the community, and will it looking at the program and the campaign do we really need lfyers, you know. Some of the things I could immediately pick up. The content as well.. was too much content on the flyer. Still not clear. But here.		Ability to engage in practical reason for a common good.	Tensions created for learner practitioners, because they have a new way of seeing things and they not given an opportunity to voice and try out their ideas.

Interview: David Bambata Date: 03 August 2010 Venue: Ekhlurani Offices: Edenvale	245-253	Manager: You know I think it has a role to play in her developing learning programmes in the future especially considering the needs of the target audience if they are community groups and so on. She wont design programs for the sake of running a project but for a particular need. I remember a while ago we had the learners from the internship and learnership programme, who were very confused about some things. There was this huge discussion and debate. But Nellie she provided clarity on this issue. Even in meetings she speaks with a different type of confidence.	Using real examples to understand aspects of context of groups.	Confidence Practical Reason “She wont design programs for the sake of running a project”	The knowledge and skills learnt on the course are used when opportunities arise and are reframed according to the circumstances in real authentic ways. Manager is seeing a level of growth and development.
	257-278	Manager: I think she has learnt to identify and understand the different communities we working with, apply principles of EE goals and carefully accommodate learners with special needs. She is also making contributions to brochures and educational materials. Oh ja, she has been writing more for like the quarterly newsletter especially about her projects. When we were planning for a campaign in Thembisa I remember she made some suggestions on what would inform education in the community, like community radio stations, trucks with an educational message, clean up campaigns. She brings in the educational element. Now I also recall her giving valuable input on educational centres and put up relevant information for the centres. Recently she organised a workshop for educators and decided to really engage them in development. She took the educators to Bela-Bela. She is definitely is making progress on EE programmes and she used a consultative approach. She checked from the audience first what they wanted to do. She organised the relevant facilitators for different parts of the programme. But you know I think she should bring this accredited trainings in moving the education programme forward.		Using opportunities and skills to make inputs about the materials and newsletters. Sense of showing care and understanding of others and their needs.	Where possible she is attempting to make social choices towards framing and reframing her programmes using approaches of appropriate methods for the group and audience as well as consultative processes and carefully designing the programmes to meet the needs of the people she works with.
	284-286	I know that she has to complete a portfolio for every module and that she must link everything to work context and that she is at the final stages of the course. But we have not discussed the course in detail.			
4Interview and Observation of Nellie in the Workplace Date: 26 July 2010 Time: 8h00-14h00 Venue: Ekhlurani Offices Edenvale	61-72	Nellie: I have, I have. That's why I need to know the need of the school and why I do a visit first to see what they want and which aspect they need. Then the part of designing a learning programme is useful. You if I know what the request is, then by the time I go there I have a plan or a programme I can take to them. To say maybe this is an idea, or perhaps you could follow this and see what happens. For instance in Isithembile, they had this, they had this old book that they wanted to dispose of and they had lots of office paper, but they did not know what to do with it. So then by the time I went there I knew that ok that the paper was different grade paper and most were textbooks, and maybe they should donate the books or recycle the books or you know. And then when we started talking about it, ideas, started to flow and ja, they've started a project on recycling and reusing. Ja..		Being able to have a sense of responsibility to things and people outside ourselves. “.. need to know the need of the school ...”	Started to become aware of the people she works with and their needs. supports the framing and reframing process.
	106-107	Nellie: I think it needs to be reworked. Im not sure what exactly it is, but I have a problem with it, im not sure. For me I would maybe combine some of the things.			Able to consider reframing practices but systemic factors may not support the process, because it comes from a provincial level.

110-116	Nellie: like Water and Agriculture, I would combine water and agriculture and come up with one theme. Also Waste, in a food garden for example, you would find elements of waste management, the issue of water conservation and then the food garden. So most of the schools they use the theme sustainability. So I would combine. But energy is quite tricky. Energy efficiency when it comes to wards. Its quite difficult to identify energy efficiency projects for wards. Its really difficult to identify energy efficient projects.		Ability to think critically	
120-122	Nellie: I think because most of them ok it is easy to manage, because it would be to look at a house or a home or a building. But when it comes to the ward, the only project they talk about is the changing of the light bulbs.		Critical thinking	
286-291	Nellie: I think looking at the background for instance my Sunday school kids, looking at their background, they not exposed to most of the issues that we are involved in.. And when I am with them, I never talk about any environmental issue. Too me it was quite beneficial because some of them they didn't know where water comes from. Some of them didn't know the implications of wasting water.			Able to carry the learnings into her personal life.
295-303	Nellie: I was coming to that. Because I was going to say that I don't think the water show alone brought the message across, because how they do it actually is Mrs Drop is mainly a warm body. And they do it in a form of story telling. And the story-teller mainly speaks English, and these kids a not from or they most speak Zulu. So even though it helped them to a certain extent, I think they maybe need to come up with activities. That would engage the kids to say engage the learners so that they can learn more. Because all they do is tell a story, sing with them. I don't even think they remember the songs. She just does it briefly, like touch it here.		Critical thinking and reflection.	
310	Nellie: No, we did quite a few at Delta.			
312	Shanu: Oh you mean the ones you did on the training itself.			
314-315	Nellie: I don't have anything in particular, but maybe something that would help them remember after the show.		Practical Reason and critical thinking	
318	remembering some of the things. Ok			
325-327	camp. Because it was our department, but we didn't have money this year. So water services took over. The only preparations we were doing here, was identifying the school.			
337-339	went on a Thursday and they came back on a Sunday. It was supposed to be a five day programme, with lots of activities. They had to go to But it never happen. But the camp happened, but they just cut the number of activities.			
344-346	Nellie: they sent us the programme and they wanted us to comment on it. But the time we were supposed to sent our comments, they had already gone through.		Ability to critically reflect	Can see opportunities for reframing a different practice but systemic factors e.g. time impact on opportunities to provide suggestions for a reframed practice.
351-353	Nellie: The programme was too congested. Too many activities and for me it was not realistic at all. It was too many activities and the number of the learners that they wanted was too much.			
357-358	Nellie: They were looking at more than 1000 learners in one camp. And also it was during the world cup. And I felt the timing was not good at all.			

	362-366	Nellie: Previously our camps would look at basic environmental issues. We would Address water, energy and electricity, agriculture and greening. We would make sure different stakeholders would be there to address different issues, whilst at the same time getting an experience of outdoor life, of camping. How it feels to be without anything.			
	370-372	Nellie: For the 10 th and 11 th June they were supposed to be in Suikerbosrand, and then they were supposed to Joburg, and then to Tshwane. Sleepover in Tshwane, I think on the 12 th and then go to Mogale City. From there they were			
	378-381	Nellie: I think I have the number here. I think it was more than a 1000. Just to have buses driving to Joburg from Ekurhleni , shh it's a nightmare. And with our camps we have 200 learners and you know it is difficult to manage 200 learners as it is. So that was what this activity was about.		Critical consciousness in being able to become aware of what exists.	
	384-385	hector perterson memorial, freedom park, Joburg zoo. Mandela Museum. So these were the tours.			
	396-400	Nellie: For me it was I actually thought they would do activities. I thought they would focus on water conservation and issues around that. But I thought this would be there focus as water services. Because the water services from Rand Water, they would come and do an environmental program focusing on water. And design a program around this because what is our purpose. Because a I			Being able to use critical consciousness to rethink the practices and see other opportunities and possibilities. (For reframing)
	402	there was no content that was			
	407-410	Nellie: If I had to do it. I would maybe have a theme, focus on one thing. One particular thing. Try and align all the activities towards that. Have a purpose to say that this is what I want to achieve. So whatever activities or tours we have must be directly aligned to ahhh.		Being able to use imagination and thought in connection with experiencing and producing works and events of one's own choice	Opportunities to see alternative possibilities of the same programme.
	414-417	Nellie: Because I think every program should have a purpose, need to know why we doing it. At the end of the day need to say this is what I want them to know. So you need to take the activities and check am I meeting the goals at the end of the day.			
	421-423	Nellie: Making sure that what I needed to do. How ,maybe water street talk, I don't know what that is but you know, BAPTV to address the energy issues, Water and Sanitation.			
	426-427	Nellie: ja – because water and sanitation and water wise in public toilets, Im not sure.			
Observation Notes: Contact Session: Module 6 Date: 08/02/ 2010 – 12/02/2010 Venue: Delta Environmental Centre F1: Presha	164	R1: Notes that they had once encountered this situation in the work context.			
	165-166	R3 She notes that we are going all the way back to the first session of knowing your audience.	Real contextualised and situated examples.		
	230-231	Mpumi notes that she is almost like a teacher because of what she has learnt about education and learning.			
	274-277	learning aid relating to waste. She told the learner that it depends on who is the target group. Therefore he should go back to the learning programme. Facilitator notes she is 100% correct. Applies to you as well. Need to look at the goals, purpose , topic.			Deconstructing her practice and framing an awareness of own practice

R1 : Respondent 1 F2: Jana F3: Shanu Monday: Day One	384	she has made a mistake so that is something useful for her. Nellie also starts to see gaps in	Reflecting on her practice		Deconstructing own workplace practice.
	395-396	possible barriers to learning, but that she now has learnt more and has done it. She says she didn't know enough before.		Feels a sense of growth in her understanding	
	400-401	Mpumi notes that her goal is to change behaviour and to link to EE goals, which is giving her a focus. Says she thinks she is addressing their outcomes..			
	403-406	Mpumi: I think I'm learning. I think I'm starting to rethink some of things I do, like I never thought of culture and beliefs before. I may sometimes have gone to the community in the informal settlement inappropriately dressed. I never considered those things before. And also how you respect people by what you say		Expanding her knowledge and skills. To recognise and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another.	Rethinking - critically engaging in reflection and deconstruction of her practice.
	408-416	Nellie says that she needs to be clear on Waste Management as a whole and link back to EE goals. She notes that her issue was on waste management in Ekurhleni, but she focused only on office recycling in their office, but she developed a program on waste management at a school. So she thinks she needs to re-look at her contextual profile and then redesign an appropriate program because she has not developed a proper idea of waste management in Ekurhleni Mpumi says that she thinks she wants her program to instill a sense of pride in that community.		Critical reflection Having the social bases of self-respect and non-humiliation; being able to think about instilling a sense of dignity in a community	Framing an awareness of her practice and then deconstruction of her practice.
	433-435	recycling. She would like to show the poster and talk the people through it. She thinks that would help the participants get into the process, but then she would supplement with other activities and resources to ensure that the participants then make meaning of the process.		Meaning-Making	
	459-465	and doesn't accommodate for attitudes, feeling etc therefore she would also need to develop a supplementary aid. Mpumi felt that the resource she choose was addressing the environmental issue because it showed the before and the after. Facilitator looks at Mpumi who is using urban jungle and asks her to clarify how she thinks by addressing the before and after scenario it is addressing her issue. Mpumi says that it is showing people a problem and then a solution so it is not leaving people with just a problem and no idea on how to solve it. But she thinks her resource may not be sensitive to the group she has. Facilitator asks her	Reflexive inquiry	Reflexivity	Awareness of own frames. Ability to deconstruct own practice.
	471-473	Mpumi says that it still would be a process that pulls at people emotion and perhaps they would still remember it. It could also generate a lot of discussion and maybe that is what people will remember.		LP has a sense of	framing an awareness of deep level learning.
	480-481	it is correct. This is now opening all this for me. Now that I see this. I suppose it is about making the choice and depends on what I want to use it for.		Being able to reflect and embark on critical action when opportunities arise.	
	491-495	Nellie notes that she thinks the physical resources in a school e.g. waste, recycling centres at the school could help to do this. Facilitator asks Nellie if the physical resources would support her goal. How will she use the resource.			

	Nellie says well I think I am goooing to need a support aid to get people to a point of thinking more carefully.			
534-540	Facilitator asks her so if she feels that way what would she do differently in her workplace practice. Nellie responds that this is how they currently see it. We design about 10 000 posters rather than 50. At work it is difficult to explain this because everyone would have a different understanding we not all on the same page. Nellie responds that it will depend on the time and the circumstance. That sometimes you can input on the process and sometimes it will depend.	Reflexivity	Opportunity to input when time arises Critical thinking for possible action.	Ability to reframe a practice.
548-555	Mpumi no longer is doing capacity building. She is not involved directly in communities. But feels she can use past experience indirectly e.g. extension officers. Facilitator asks her if she is not responsible for marketing, brochures and part of communication and awareness. Do you not inform what you want. Mpumi notes that in a way she is. But sometimes they have structured agreements though if it were implemented. She says maybe it could be used when structuring the agreement or sending the specs. Notes that to talk about LTSM in her current work is difficult but if you referred to it as promotional material it would be more acceptable.			Although she sees opportunities she still struggles to make it relevant to her work. Not always easy for the LP to see relevance. Also challenges in terms of relevance to workplace practices.
557-566	She notes that realities are different. Everything needs management approvals. Mpumi says that when you look at the history of the organization they moved from DACEL to GDARD. They had to get rid of the old stuff that had all DACEL logo and they printed new stuff, yet the content is the same. Discussion around whether the material keeps up with the government priorities and what happens about branding and how materials need to be appropriately branded for an organisation particularly government. Facilitator asks them why is this suddenly and issue for them, the materials and its relevance? Mpumi responds that now she is more critical because she can see that it is not up to date or relevant to an audience.		Critical consciousness of work practice	
570-574	Mpumi notes that political influences also impact on resources from government. She uses the example of Mary Metcalfe who was more educationally driven and had an education vision for the department, which then influenced the type of materials they developed. It had to be developed on very sound educational principles like the environment matters series, which was strongly curriculum linked and had teacher's guides and learner's guides.			
577-586	Mpumi says that times change. Facilitator then asks the group what they think the use of a learning aid would be considering the types of circumstances they are mentioning. Dathi says that he thinks the aid would help to mediate some of the challenges experienced by the resources. More discussion continues and the facilitator eventually draws that discussion to a close and tells Mpumi that its important to see that she is passionate about what she heard on the radio and tv this morning and it has really gotten her riled up. Facilitator then asks the group to think about their work and what are the implications for the resource/ltsm for their work?			
654-659	Belinda who is a manager in GDARD notes that it is good that they had this discussion because it has shed light on some of the frustrations they have. She notes how important this discussion was because they currently have funding for re-printing these materials without understanding the complexities associated with the project. She notes that it is good to hear the challenges faced because they can plan better for their projects and programmes in the future.			

OBSERVATION OF MPUMI AT WORK Date: 27 July 2010 Time: 9h00 Venue: GDARD offices on Commisioner street	119-121	Nandi talks about the vision and mission. Mpumi notes that perhaps think carefully about what they want to achieve with the banners and then decide what they want on the banners.			
	140-153	Resources they will be taking is 6 boxes of the (Environment Matters series books – NB these books were specifically designed for learners and teachers – discussed on the the course in the module on LTSM mod 6). They want to give away the books to promote awareness. Modules discussed is the Water, air and habitat. The audience that they are expecting are the rural female farmers. Think they could take it home for their children. (Mpumi says these were the ones we used in Moudle 6 Shanu you remember) They want to take it to Cape Town as many as possible. Take as many boxes as they can. Boxes are heavy so they will need to courier them. Need to work as a team. Phone the warehouse and tell them we need it for an exhibition. Ask them how to courier them to Cape-Town. Veronique notes don't take irrelevant materials and we have a lot of irrelevant materials. Mpumi says if it was up to her, she knows that the material is not appropriate because it was mainly designed for the teacher's. Not appropriate for the farmers. Mpumi asks if she is supposed to do anything for Mandela day. Told nothing in		Critical thinking but not taken into action.	although the learner practitioner saw the opportunities and knew the materials were inappropriate she did not say anything.

ANALYSIS AND CODING OF DATA
COURSE PEDAGOGY – Interviews – Observations
Analytical Memo – AM3

Interview Source	Line Reference	Quote	Method used / Enabling/ De-enabling Factor
Mpumi 23 rd July 2010 12h30 DEC	99-100	doing. Now that I have done the module on monitoring and evaluation. Is it that what we are doing.	
	104-107	Mpumi: ja it is the Delta course. So what we are doing, are we having an impact on the community or are we just doing for the sake of doing because we government and we need to also submit a report that in 2009 we spent our budget and we did this number of clean up campaigns.	
	364-369	Mpumi: Because take for instance when we were doing the sensory trial. We went to the garden, experience that exercise we are doing. If you go to Parktown would you find that. No. So maybe whatever you talking about there or discussing. Around the park lets go to the east of whatever the topic is we discussing. We not going to find it there. The practical part of it. Maybe you saw it somewhere, but it never like registered that this actually you know is there for this reason. How you perceive	Experiential – working with real examples
	374-376	Mpumi: A lot of them. The Wetlands down there. When Geoff did stuff with us on birds. Then I started to realize that some of the birds in the park you don't find them in the township. This part of the park, you even forget that this Joburg.	Experiential
	381	Mpumi: The implementation part of it, I think you a bit tough on us on that. The	
	386-397	Mpumi: I'm not sure. When we had to identify the group to work with, it was easy for me to identify the group (the Rooikraal group). The very first time we went there, it hit me. I cant even describe it. I became emotional about the people in a way that I cant even describe it. It struck me I couldn't imagine that in this day and age, we have people in Gauteng that live like that. I even still have tears and imagine myself that should I go there then, will I start crying again. Interviewer: Ok, so going on that trip to that landfill site and meeting the community that live on the edge, made quiet an impression on you. Mpumi: It did. It was like a wake up call. I would complain sometimes there and there, but really there are people there, that really poverty are the second nature.	Experiential – real examples through field trips– emotional link
	415-419	Mpumi: You know I've realized that this course is lifelong learning. You know back then we would learn theory and then forget some of the things. But here it is different. You talk about the real thing. So whatever it is, you have to provide evidence. Its like if I'm writing an essay and I say I went I went, then I have to provide evidence. That's when the critical thinking part comes in. You put yourself into this in whatever you do.	Working with real examples – critical thinking
	423	Mpumi: (laugh) Not all of it. I like different pieces.	
	428-430	Mpumi: Ja, because even now I am struggling with the graphs. If I had more time, a full day going through doing them practically, and also spending more time on reporting. I think spending two to three hours was not enough. Different types of graphs.	
	434-435	Mpumi: The level of thinking. From day one when I started upto now. Then I am a different Mpumi.	The deep level of thinking supported by experiential opportunity
	439-440	Mpumi: For me I didn't have any environmental background. But now I can stand up in a capacity building workshop, and you'd swear that I am a pro.	sense of confidence and language
	444-445	Mpumi: The way I explain myself and talk confidently of the stuff that I know. Then you would say that one she is an environmentatlis. And then one day I will be there.	
	449	Mpumi: Ja, I am confident. Looking at the time when I was conducting that stakeholder	
	462-467	Mpumi: The planning. The actual planning. The whole, the group management, the different types of groups and how to handle them. That for me, cannot be separated. Because they run concurrently. And this course that we doing, there is no at the back of my mind. You have to show what Im talking about. You cant say at the back of my mind sperate sheet where you write your thoughts. That is your third piece evidence. That while I was doing this, these were the thoughts that were coming.	Constantly grounding thoughts and feelings. through reflecting and thinking about what they doing.
	471-472	Mpumi: Ja, these are like reflective thinking. Though sometimes I happen to go through my notes, but if I go through that sheets/ information then I am able to find them.	

	483-489	Mpumi: Yes, especially now when we had the EIA open day. The big guys we had there , you can say this people talk money. Starting from the dress, the language they use during their presentation. I happen to now understand. I happen to have this my target audience clearly defined within me. And selecting when you have this type of audience, then this is the way to conduct yourself. You can be at their level and they accept you and then you can interact. When we had the EIA open day, then you had these guys sitting with their labtops, phones.	Experiential methods support the development of confidence through the language and the concepts development.
	493	Mpumi: Ja, Ja I do. I have it now. I mean it is a different directorate and giving support	
Mpumi Line Function Manager (I5) 16 th July 2010 14h15 DEC	202-203	Belinda: I think that if if she actually manages to get this course ahh she might want to come back to stakeholder.	
	314-315	Belinda: Our mmm, like when we are doing now, here I think it goes much further. Here we must utilize a correct tool for a correct method. In terms of agriculture we just compile it or design it	
	331-333	could actually pick up that she has no background, no information. As much as she had done the research, it was limited. But now there is growth in her scope. She can actually quote you know things that she has learnt at Delta on issues of the EE program. She can quote all of those principles,	
	400	Interviewer: A final question is How easy is it for Mpumi to do the portfolio tasks in the workplace.	
	404	Interviewer: Are the portfolio tasks realistic?	
	406-409	Belinda: They are realistic. It is just that when you go back to the work it becomes it is not easy because here it is more a group operation. But when they go back to work, we go back to our each sub-unit. So it breaks the momentum of a group. Then you find that there is this deadline to meet for this unit and this deadline to meet for this unit. So hence when we get in to it, we sink and it becomes	Experiential methods. Highlights the tensions between the course and the workplace.
	413-416	all get swallowed into that. Ja but its not difficult at all, or that they are not understanding them. It becomes an issue of do we give them to our supervisors when we arrive at work to say this is the new information that we have learnt, give me time to to implement and then perhaps so that I can link it to my workplace. When I arrive at work there is a different priority that is there which is perhaps set by	
	425-430	Interviewer: But ok the task that Mpumi had, of actually following through with the group in the first module, to doing a contextual profile then going into actually designing a programme for the group and then actually implementing it with the same group. Does that work within your workplace? Belinda: Aaaa. It is difficult for it to work, because there isn't much of a room for it. To a point where I can go to my director and say can we do it according to this portfolio. Because now I will be	Experiential methods. Highlights the tensions between the course and the workplace.
Interview 2 (Nellie) Date: 10/02/2010 Venue: DEC	166-170	R1: maybe it was, it was, that we ah ah had a relationship with between us and Delta and it was people that I was familiar with and I could and was familiar with your facilitation and the way and the methods that you used. When you conduct programs and everything ike that. And I thought that it would be easy, it was a platform that would be easy to work in.	Relationship between the learner-practioners and the facilitators
	175-178	R1: It was the mostly the action learning. I had to do everything myself mostly because I learn more and faster if I get involved even if sometimes (ok) I don't like the activities, it is critical thinking and you know, we always have to be on top of things, so cant just come in and relax, you know.	Relationship between the learner-practioners and the facilitators
	251-253	R1: It is ... because it is... Im implementing this program in a school. Even if it is tiny step towards greening the school which is one of the prioritese of our work. Doing this would help them to build up a portfolio towards other projects, e.g. BKB, eye program.	
	257-264	R1: I have.... I have because like... Im trying to think of one example I have done so far . Maybe in terms of mentoring the learners. Because it is part of my job. So all the methods I learn here, I go back and use them, so like if they have or battling with one activity, I wouldn't tell them exactly this is how we need to do it. I would put it back to them and say how would you go back to doing it, and they would discuss it amongst themselves and solve that particular problem themselves. So and and at the end of the day, I just realised that working with them also highlights some of the methods and the stuff I learn from here. Mmmm.	The learner practitioners find the methods of problem solving important to help people discuss amongst themselves to problem solve.
	269-274	R1: they are ... it is a lot of work . But it is helping. Because now what I do at work I am conscious of how I do things and why I am doing them for instance ... but it is a bit challenging because some of things that we are supposed to do things, I now wouldn't want to do them, or do them in the way that they want us to do them. Or I would want to know reasons for everything we do, I would maybe want to know reasons, methods, maybe to say why am I doing it like that.	Learner Practioners find the course is getting them to be conscious of their actions.

	337	thing that helped you learn, was the fact that the facilitator was pushy. Explain this for	
	341-346	portfolio and I for some reason don't want to do it, but in a way you here and you pushing to say that this is what you need to do, and setting me time frames, and I want to go home, but the sooner I do this the better. Sooner I get it done the better. So ja. Interviewer: So setting you the task as we have done it this week, like you presenting stuff each day, and getting comments from a few people, how has this helped you.	
	348-349	R1: Making me do it here and deliver it before I leave is good. Because once I go home, there is no one there to sit on my back, and I just get caught up with everything.	
	355-356	Interviewer: And the other session you reflected on when you said it was the pushiness of the facilitator, I was wondering if that forcing you to think further...	
	358-366	R1: You know when discussing some of the questions, some of the questions that both of you pose, are the types of questions that force us to think, push us to do something, push us to think beyond whatever we are thinking, and we would go an extra mile in terms of our work and our thinking. You know and ... even if sometime you don't want to answer, and you don't want to think about the answer to this question, but if you waiting for an answer I have to give you an answer, and sometimes I become surprised about the answers that come out, because I have to give you an answer, because you waiting for an answer from me. And sometimes I become surprised by the answers that come out from my head. Hhhhh	The scaffolding of learners through question supports critical thinking and learner practitioners to move to higher and deeper levels of thinking.
	371-374	R1: It helped as well. Because we tend to forget. But when you get us to stop and think back to what have you learnt, it starts to come back. And sometimes I become worried, because some of things that I think I need to know and to take into everyday of my life without thinking about a module.	
	379-384	R1: Let me go back to something we did, or something we learnt yesterday. What we learnt about reporting and language, I have seen something, when I was working with my implementation plan, I realised that all the sentences that I wrote, I had to shorten them. I had so much text, in my implementation plan, but by the time I finished it, I had less sentences. So of the things I use I am trying to think of something I used at work. I can't think about something now, but most of the things I take back.	
4Observation Notes Contact Session: Module 3	35-38	The facilitator provides the course participants with sets of cards called my thoughts from last session... Each person given a set of 5 key cards. Initially on the first two sets of cards they must write down two things they felt were the most important ideas or concepts from the last session.	Reflection supported by questions
	52-57	Nellie notes that it was mainly the reading and interpreting of the policies because although the policies inform their work they don't look at it in detail. She notes that it is mainly the workplace policies they follow and not so much the environmental policies. Feels that this is something she needs to work more on. Shanu then asks the participants what they would still like to focus on. Lots of discussion amongst the group – then Mpumi says “how can I meet the needs of my group that I am going to work with”.	Reading supporting reflection
	59-62	Presha. She talks to the group about them being environmental educators who work in a municipal context or the provincial context or in the Zoo. Asks them to consider “how do you start to plan for the group you work with. What ideas on how people learn inform what you do”. Lots of discussion in the group.	Drawing on the real situated contexts of their work through questions, dialogue and discussions.
	64-77	Presha introduces the group to the reading of a case study of an environmental municipal programme. She notes “I want you to read and then to pull out the important things in this programme that stood out for you, especially seeing as this is a similar context to yourself. Let us think about what we can learn from this case study” She gives them time to read. Her anticipated reading time was 35 minutes and 15 minutes to complete the worksheet. After 50 minutes Presha asks them if they finished. The group notes they still not finished with the reading. The activity took approximately 2h15 minutes to complete. Dhathi notes the reading was long and difficult. They then use strips of paper and write down the main ideas and concepts from the reading that they felt were important for the programme. Presha asks them to build a picture on the wall like a mind map that highlights the key aspects from the case study for them. As they build the picture Presha asks them questions to explain why they feel that was an important point. After they finish and have extracted the key features of an environmental learning programme – Presha asks them to look at what they pulled out against their own practice and to surface the similarities or differences and to explain and motivate why the aspects they pulled out is important to them when designing a programme. She asks them “why this particular approach is significant to your work context” and how would this “impact on the decisions you would make on programme design”	Reading supported by questions and mind maps to scaffold learners through the task.

79-84	Presha then asks them to think back to the Earth Charter Principles or the Tibilisi principles and make a note of which principles they found key when designing the programmes. She then asks them to add to their framework for developing environmental learning programmes. The mind map now have a few new words like critical engagement, holistic, involving all ages, involve the community, socially just and problem solving are some of the words that are added to the mind map. I can see that the use of the principles have added to the discussion	Open-ended questions to support the scaffolding process.
86-94	Annexure B which is list of methods is used to support the session. Shanu starts by asking the group to think back to something they learnt in school and then to share this with the group and to tell us why they still remember this today. Different group members share. Mpumi notes she remembers this teacher who was her language teacher who used to always tell her she couldn't do it. But she remembers that she always wanted to prove him wrong. Members in the group share experiences – some highlighting they recall trying to learn something difficult but when the teacher actually did it with them they remembered. Shanu then asks the group to share from their own work which methods they have used more often in the work with groups and which	Scaffolding through linking to real experiences and through sharing with each other.
95-102	methods they think they have not used. Mpumi says that they work mainly with big groups and all community members at one time. So they use drama and music and dance more often because u can do it with all the people one time. Nellie talks about presentations – because you can do it and then everyone can see. Says lots of talk. Shanu asks them to think about whether these methods worked and why they think it worked. Discussion amongst the group. Finally Mpumi says it worked because they could reach everyone. Because of the circumstances.	Dialogue and discussions supported by questions to frame current practice, by getting Learner practitioners to reflect on own situations.
103- 113	Shanu then asked them to read annexure B which was a list of different methods. She asks them to read the list and check if there are any other methods that they may not have used that could be used in the circumstances. Nellie makes a note of the experiential. She says this is the one they could use mainly with maybe their school groups. She feels they do use it, but maybe it could be more detailed. Mpumi says that she thinks the learning by doing method. Because when she went to the informal settlement and buy-back centre it really left an impression on her. She felt so emotionally touched that she just wanted to do something to help the people. Jane another participant says maybe the use of stories, especially using local stories like for example the stories of the people living next to kllipspruit who live near the river. They have important stories to tell about what they see happening there and how things have changed with time	Reading supported by open questions and dialogue scaffolds learner practitioners to consider alternatives (reframing).
115-123	Shanu asks the group to think about what would inform the methods they would choose when they planning and then use. She asks them to work in groups of 4 and to think about how they would choose the methods. What would inform the descisions and choices they would make. They must capture this on a flipchart paper. Group is given 30 minutes to discuss amongst themselves. Shanu sits down and allows the group to discuss. After about 30 minutes – she asks them to swap their flipchart with the next group. The group that now received the other groups flipchart can read and add if they feel something is not there. They can also discuss and debate amongst themselves, but they have about 7 minutes after which time they must switch again with another group. This goes on for two rounds.	Co-operative learning through group discussions supported by writing tasks scaffold learners to consider personal practices
139-147	Shanu then sets the scene for the day. She notes that they will be working with a group of students today who come from the City Year programme which is a youth programme run by the city of Johannesburg. The group are coming to Delta to engage in a full day programme on developing an understanding of environmental issues. Drawing on the discussions from the previous day on understanding who we work with, the learner – practitioners will be required to design a set of questions which they will use to try and understand the City Year students. They will interview the students and also interview the Delta staff member who was involved in designing the programme to understand the decisions that were made and how the descisions informed the design of the programme.	On-course tasks. Engaging Learner practitioners in experiential opportunities similar to personal contexts scaffold learners to understand practices .
149-162	The Learner-practioners were given the worked out programme for the City year group. After they interviewed the group they had to observe the programme and the different learning activites in the programme to gain an understanding of the activites and the different types of methods used in the programme. The learner-practitioners were given a worksheet to look at the different methods to try and understand how learning was taking place. After discussion and clarification on the task the students were given the opportunity to interact with the programme co-ordinator and the City Year Students. Shanu went around to observe the interactions between the groups and the discussions. Each group found a few students and identified an area to sit down and then discuss with them. After their interviews – they then went an observed the following activities – a presentation on the Braamfontein Spruit – contextualising where it comes from and the areas it flows through. Thereafter they were engaged in a catchment observation with some worksheets and also doing a biomonitoring and water quality analysis at the River at the bottom of Delta Park.	Experiential opportunities designed in on-course tasks supported by questions on a worksheet.

165-174	Shanu gave them some time to ensure their worksheets were complete and also to discuss as a group so that they could present their findings, learnings and observations. Each group given time after lunch to discuss their key observations and learnings from the programme. Discussion ensued. Mpumi noted that she felt that the programme was not really meeting the needs of some of the learners. Because the learner she interviewed was more interested in Music and fashion designing and didn't really want to be involved in anything relating to the environment. Felt they were just there because they had to be there. She also felt the programme did not give the learners adequate opportunity to find why they had to do this and to develop a love and appreciation for the environment.	Experiential opportunities supported by dialogue and discussions in groups scaffold learner practitioners to understand content in real situations. Evidence of LP being critical in observations and in discussions, seeing opportunities for alternative ways of doing.
176-189	Discussion then developed around What type of learning and methods would help to develop this sense of purpose and deep emotional link to the environment. Belinda said that people must feel that their voices are recognised and part of the discussion. Mpumi says that perhaps being involved in things that really touch people emotionally e.g. controversial stuff like meeting the real people affected or social justice issues like the community in the informal settlement. Nellie said really doing the things but also thinking critically about what is being done and why. Questions asked about what they learnt about methods and how they think people were learning through the different types of methods. Each group discussed the worksheets. Shanu also asked them to make a note of what they felt was supporting the learning. Mpumi said she thinks the materials used were good and useful e.g. the powerpoint slide and maps because it gave you some idea. Also felt the worksheets and the physical resources e.g. the river. Shanu asked the group the question of what they would consider when they selected materials.	discussions supported and underpinned by dialogue, open and critical questions and experiential opportunities, scaffold LP towards a frame awareness.
197-203	They had to use the programme developed for the city year group and adapt the programme to make it relevant. She drew their attention to the on-course task in the manual. She asked them to use the notes and the readings and what they learnt from the session to adapt the programme. Because it was the end of the day, she would give them time tomorrow to complete the task. They would need to also have the materials or resources they would use. How they choose to present the adapted material would be left to them, but they would need to be ready to present by 11h30 the next day.	On-course tasks, supported by readings, dialogue and presentations draw the course learnings together and creates opportunities for learner practitioners to practice their learnings from the course.
216-220	At 10:00 Shanu asked the group to find a spot they would want to work in and then to prepare for their presentation. She noted they would reconvene at 12h00. The learner practitioners broke into three groups. And found different areas to work in. Each group had a laptop. They worked on the task but at 12h00 they felt they were not ready. So Shanu noted she would give them time until lunch and then after lunch each group would need to present.	Co-operative learning underpinned by a task and discussions.
222-225	Using the Kool and Hart reading on effective environmental programmes – the group was given some time to think about what effective EE programmes would need to have. Each group drew up a list from the readings. It was observed again that they took a lot of time to read and draw out the criteria. Criteria were then discussed and explained by each group.	Using a reading to scaffold learners to new knowledge through co-operative discussions and dialogue.
227-238	After discussions each group presented their adapted learning programme. Each group made a powerpoint highlighting the group of learners giving detailed explanations about the learner group. Mpumi worked together with Jane and Themba and Laurina. They went and met with Randwater and used some of the Randwater materials on water quality monitoring. Nelisiwe worked together with Neliswa and also Solly. They adapted the programme by adding some aspects linked to Wetlands. Included in their selection of methods the following: Investigation of a community and a site visit. Used the Active learning framework, cooperative methods, picture building, auditing and a clean up. Groups asked each other questions based on the criteria that was established. Discussed and then concluded the discussions.	Dialogue and discussions underpinned by a on-course task of adaptation and working groups.
242-245	Shanu asking the group to make a list of key valuable points they gained from the session the previous day. Each group had to develop a mind map around the elements that they learnt from the previous day. Nelisiwe made a note about the different stakeholders and their roles and how they could be brought into the learning programme.	Reflections using a mind map.

	247-266	Each person was then asked to think about the group of people they have been working with in their EE programmes and in particular the group of people they identified in module 1 and 2. The group was divided into two groups with Vivian and Shanu. In each smaller group they were asked to develop their profile of their group clearly highlighting the context of the group and their workplace. Learner practioners were given time to draw up the summary of the group and also the issue that they focused on. Each person had time in the small group with the facilitator to tell everyone about who they were wanting to work with and about their issue and how it linked to their work. Thereafter they were asked to plan a programme that they could do with the group. They could design a framework that was relevant to their work situation. Each person had to present a framework of their learning programme before they left, clearly highlighting what they planned to do, who they would involve, the methods they would use and the materials they could consult. They had access to the library and a wide variety of different resources to help them. They were introduced to the workplace task of designing an original environmental programme and critically evaluating it. The learner -practioners worked from 11h00 until lunch. They were not ready by lunch time so they were given extra time until after lunch. After lunch some learners presented their stuff. Some other Delta Staff were invited to sit in on the presentations and to help if needed.	Working with the facilitators and group members through engaging in discussions, LP start to plan the workplace tasks, by clarifying the group they will work with in the workplace. Scaffolding learners to engage in attempt task together. Engagement with “experts” to help provide constructive feedback to enable alternative frames to surface to support reframing.
Observation Notes: Contact Session: Module 6 Date: 08/02/2010 – 12/02/2010 Venue: Delta Environmental Centre F1: Presha R 1: Respondent 1 F2: Jana F3: Shanu Monday: Day One	17	Session begins by facilitator (F1) tracing the path of the modules thus far. She asks	
	23-35	Facilitator notes that helping people to learn is a key part of our role. Notes that people are different and have different learning styles. We work with the idea that people are different. F1: asks group to individually reflect on how inclusive we are? Reflect on their own practice. Handout provided on inclusion. Hand out had key questions to guide the reflection. Questions were fairly open-ended. F1: Introduced the tool and the questions and then provided an opportunity for participants to complete the worksheet. F1: asks the group to look at their reflection and then to highlight 5 inclusion issues they need to explore further within their organizations. Asked to discuss within the group. F1: Poses the question of whether the participants think their organization considers inclusion.	Open-critical questions supporting reflection. Open-critical questions supporting dialogue and discussions.
	36	R1: Notes that they are trying in theory but not in practice.	
	43	F1: used questions to probe further: e.g. asked participants “What is inclusion from your	use of questions.
	56-59	Facilitator used a diagram to show that no two people are alike. Flipchart was used to unpack the diagram. Facilitator used four key points to unpack diagram. 1. Respecting differences Used a powerpoint diagram. Thereafter the facilitator asked participants what they understood by the word barrier.	
	63-65	scene for the next task, which was a practical example of a program that was designed for the sensory trail. This activity was designed with Braille and the trail was designed by Rob Filmer. Participants were to use the worksheet provided and do the activity in the garden.	Experiential and contextualised learning opportunities.
	68-71	Participants given clues to look for and to move from one spot to the next. She also gave the participants some background into the trail. ‘Noted that it was designed to stimulate the senses. Participants need to go from one point to the next and answer the question on the worksheet. Boards in the garden are in Braille.	Questions contained in worksheets also scaffold people through learning.
	73-74	As participants move around the garden they note that it is difficult to read Braille. Participants smell the compost. They then move on to smell and feel the wild mint and the	Expereiential learning contributes to learning in a context.
	80-86	Participants taken to a particular spot in the garden and asked to listen to the sounds and then to look around without a sound and note what they see. At point 8: participants ask the facilitator what they should be observing. Facilitator points to the lichen. Make a note of the rough aspects and the lichen feels flaky. F2 talks about the bulbine and its use for burns. Then she poses questions. Look at what	Expereiential learning contributes to learning in a context.
	89	R3: notes that it would be the gradient of the path.	
	91-93	R2: the resources provided e.g. the type of worksheet or books. R1: commented that the course was refreshing and energizing and provided opportunity for them to explore.	
	97-98	Facilitator asked the group what they learnt and then asked the group what they understood to be some barriers.	questions to stimulate discussion.

100	R2: noted that it is something that hinders learning.	
102	environmental educator is to design learning for change.	
103-107	F1 Used a picture showing different barriers. Then grounded the task in learners experience by asking them to think of four things that made it difficult for them to learn at school. Participants answered questions individually. Responses captured on Flipchart. R2 Lazy teacher. R3: Bombastic language. Personal attacks of educators. Personal resources at college.	Questions to stimulate dialogue and drawing on own experiences to try and understand that which is abstract.
113	Participants given examples. Discussion some barriers exist inside the person e.g. health.	Discussion
116-119	Facilitator spoke about systemic barriers using examples that the participant idea from their experience. "Drew the learners back to their own programmes and asked them to think of their context of their learning programme. Group was referred to notes on barriers in the manual.	Real examples from own experience. Reading -
121-130	Then asked to complete task pg 13. Need to design a programme for water week. Plan a 2 hour meeting. Look at the task. Facilitator asked them to develop a workshop plan and to capture on the flipchart. Discuss in groups. Participants engaged in a group discussion to arrive at a strategy to do the task. Facilitator asked them to develop a workshop plan and to capture on the flipchart. Discuss in groups. Participants engaged in a group discussion to arrive at a strategy to do the task. R2 noted that it is difficult to accommodate all these participants in the same workshop e.g. children, teenagers, community etc. Felt they needed to clarify the issue of children and toddlers.	group discussion - underpinned by an on-course task.
132-134	Considerable discussion in the group. Felt they need to clarify the issue of the Magalies community. Felt they also needed to clarify the task. Felt they should identify the issues of water that would be relevant to this particular community. E.g. the residents in an informal	discussion in groups supporting scaffolding
138-139	finally decided to focus on clean water. Substantial discussion and dialogue between the members in the group.	discussion and dialogue
141	Facilitator then asked the groups to do their presentations.	group presentations
143-148	Group 1 Presentation: Group one asked to present their task. Participants explained their programme. Programme consisted of a ball game for ice-breaker, water cycle chart used and a card game to provide feedback. (see flipchart) Facilitator then posed questions to the group. Noted that the chart was chosen because it accommodates everyone.	open-questions to support LP to think deeply about their tasks
150-151	F1. asked: "How do you accommodate people experiencing contextual barriers of not having water	Open-ended questions to support the scaffolding process.
155-157	F1: then asked the group to think of the icebreaker and to note how they will deal with the cultural barriers of a shop keeper not completing the tasks posed. Asked group to think about how they would use the card game.	Open-ended questions to support the scaffolding process.
159	Group 2 Presentation	
162	Facilitator posed a question on How you will accommodate competing brands.	
168-171	Facilitator synthesizes the points, e.g. need to be sensitive. Be clear on why you have chosen particular aspects. Facilitator asks participants to work on this task and to show them in the morning to the relevant facilitator. This was to be included as a POE task – session closed for afternoon.	
180-181	Participants welcomed. Asked to look at photos of the previous day and to reflect on the process of what happened. Asked to look at three photos' "what you were doing and how you think you were learning and what you think helped you learn"	Use of photos to encourage reflection.
187-190	Nellie felt that understanding that people are different. Knowing that irrespective of disability can use senses. Facilitator asks them what stood out for them from what happened yesterday.	Open Questions to guide discussions and reflections.
195-197	Facilitator then asks the question that thinking about people being different, what implications for us as EE practitioners designing programs. Belinda says try to be inclusive because in the audience have different people.	

204-205	Notes that this is part of the POE task. Provides one hour to complete the task. Every task doing in the session is a portfolio task.	
218	Facilitator moves around and the groups ask her questions. Discussion on sensitivity to	
220-223	Groups the present their flipcharts and inclusive learning programmes. Questions posed by the facilitator and other group members. Questions relate to how does the group think the activity is relevant for the group they identified and why do they think that activity is appropriate.	Open and critical Questions posed by group and facilitator to support scaffolding.
228-229	Facilitator then looks at the idea of an LTSM. Facilitator introduces concept of LTSM. Manual handed to the group.	
232	Facilitator asks the question "What has helped you learn when you were at school?".	
234-245	Facilitator then poses the question, "which aspects of the newspaper helped you learn?" Belinda notes that pictures and texts in the paper helped her learn. Facilitator then probes and questions the participants e.g "What type of texts?". Facilitator says the practical aspects building on Themba's idea of bottle caps. Question by facilitator about what did you like about using texts and pictures. Nellie says it made it easier. Drawing on own experience, real, relevant. Facilitator asks Nellie what would be an implication of knowing that what helped her learn at school was something that drew on her own experience, was real and relevant in how she selects materials. Task set for the group to go to the library – complete task on Pg 8 and 9 in manual. Looking at printed material. Participants asked to go to the library, select one material, and then to look at how effective that material is. Select one resource and then answer the record sheet with questions. Group taken to the library. They then select materials and then think about the question: e.g.	Drawing on real prior experiences of learner practitioners, underpinned by discussions and open-questions. Tasks underpinned by questions scaffold learners to independent inquiry.
247-248	Participant chose a material that has a teacher guide and a learner guide. Participants then work in pairs and use the worksheet.	co-operative learning
250-257	Nellie notes that the colour and then the heading e.g. recycling and its relevant to issue and easy to follow. Mpumi – notes that her material was relevant to the topic – cover was related to the issue- this was informative. Bigger font. Facilitator rephrases – coming back to goals and purpose of the material. Facilitator asks group to compare the materials e.g. Nellie material is a poster whilst Mpumi's is a book and Dhati noted that the one he chose was a brochure. Discussion ensues with Nellie asking "how can a brochure be a learning and teaching support material?".	discussion in groups supporting scaffolding
259-267	then it should be a learning resource. Themba notes that the one that he chose was full of pictures and was related to animals therefore he chose the material because the content was relevant and it was not intimidating. He notes that the cover attracted him first to the material. Nellie notes that she chose the material because she felt that it was relevant to the target group it was simple and not complicated – could be used with different audiences, therefore it was versatile for different groups. Can be easy to understand by illiterate groups because it was simple with not much writing. Jane notes hers is on wetlands. Can reach different communities. Facilitator asks her to	Co-operative learning underpinned through dialogue and stimulated and promoted through questions.
270	Dathi notes that his was reader friendly, simple English and the way it was packaged.	
273-274	Nellie mentions that when she was talking to one learner from the learnership who wanted a learning aid relating to waste. She told the learner that it depends on who is the target group.	Examples of own situations and experiences drawn into the learning.
279	How do we come up with criteria to judge materials? They write it down on strips of paper.	
281-286	on strips of paper. A very intense discussion follows on each aspect. First group asked to find some trends and group the categories according to what they see as common trends. Thereafter an analysis of each aspect ensues. Facilitator poses questions to start the discussion the group then respond and the discussions flows with each person picking up from the next person's point. Active engagement by each participant in a dialogue. Through discussion they eventually arrive at 8 criteria that they feel happy to use.	Questions and discussion
296-297	Facilitator sets the scene for the day and asks participants if they had anything they would want included into the session. Participants generally agree that they think it would be fine	

300-308	Facilitator starts the morning by asking the participants to write down the 5 most burning questions they have in terms of resource development. The course participants write 5 questions on an A3 sheet. Facilitator provides the participants with time and space to think and also asks participants to relate it to their work. That is in their work context what would be some of the critical questions they would want to address when working with learning materials. Facilitator rephrases that what would they need to know to be able to do their job better in terms of training materials, brochures etc.	Reflection through writing and discussions and synthesising. Reflecting on own experience.
310-317	Facilitator then asks them to use yellow paper and narrow down the 5 questions to 2 most important and burning questions, e.g. I cannot leave here without understanding and knowing this.... What would it be. Participants write down questions on strips and put it up. Generally each participant discusses there two burning questions. This provides the facilitator with clear guidance on the needs of the participants. Facilitator asks participants to reflect on the type of resources they come across in their work.	Reflection through writing and discussions and synthesising Reflecting on own experience.
326	unpack this question. Eventually it leads to how do I choose relevant materials.	
330-331	Mpumi's question is How to design relevant materials for my programme e.g. The community in the informal settlement. Through a discussion they eventually decide that it comes down to how to	
334-336	Facilitator asks participants to keep in mind the materials they use or work with in their work situations. She asks them to make a list of the different type of materials they encounter daily.	Grounding own personal workplace practice through discussion.
338-364	Facilitator asks the group to go back to module three and use a worksheet to write down all the details of their learning programme for their group that they identified. Thereafter they need to think about the different LTSM or materials they would need for the Learning Programme and look at selecting the most appropriate LTSM . Mpumi asks how would I know what I chose is relevant. Facilitator asks the group to suggest some possible answers for Mpumi. Nellie says that you would have to think about the group, look at the issue, the type of things and how learning happens, what methods will be using and then look at the goals and principals of EE. If you do all this and check your material against these criteria then you are sure to have chosen the right material. Facilitator congratulates Nellie. Then also adds that maybe we need to think carefully and if we go through the process then perhaps we can make decisions about whether the material is appropriate later on. Facilitator give the group a piece of A3 paper with key headings and summary. She asks them to think back from module 1 where they identified and environmental issue and then analyzed that issue. They also thought of a group they would want to work with. In module two they looked at gaining a better understanding of the issue, in terms of policies and conventions and also about education how learning happens. In module three they developed a learning programme for the group they wanted to work with, in module four they learnt about facilitation and in module 5 they looked at evaluation. The facilitator uses coloured paper and builds this up on the wall. She then asks the participants to go back to their module three and think carefully about the Learning programme and enter all the details on the sheet that she gave them to help them keep their learning programme and group in focus. The group starts to fill the form and framework of the LP. Everyone gets their module three files back.	Reflecting on own experience. Scaffolding to new ideas through discussion.
373	Facilitator allows about 1hour 30 minutes for the participants to work on the task. As she	
375-378	Nellie says "I've given them wrong information. When I'm talking about EE goals I know. But after a while I forget.. I think I gave the learners (those that she is mentoring in the workplace) some incorrect information about the goals. You know maybe I should put these EE goals on cards and put it in our office.	Learners start to deconstruct their own practice through engaging in discussions and questions on worksheets.
380-388	Facilitator notes that she hasn't made meaning of it for herself, so she needs to ground the principles and goals in something real for her. She should try and make meaning of them for herself, also think about how she learns and how she is using what she is learning. Facilitator notes that it is interesting that through her mentoring of the leaners she has now realized that she has made a mistake so that is something useful for her. Nellie also starts to see gaps in her learning programme that she developed in module 3. She realized that her issue was on one thing but her learning programme was on something else.	Deconstruction of the personal practice, seeing other possibilities and opportunities.
390-392	After everyone has worked on their learning programme the facilitator asks them to use a checklist and go through their learning programme. Using the checklist they go through their learning programme.	

395	possible barriers to learning, but that she now has learnt more and has done it. She says she	
398-431	Facilitator asks them whether their learning program is helping them to address the issue that they had identified and the outcomes that they had planned for. Mpumi notes that her goal is to change behaviour and to link to EE goals, which is giving her a focus. Says she thinks she is addressing their outcomes.. Facilitator asks her if her Lp is helping her achieve those goals. Mpumi: I think I'm learning. I think I'm starting to think about some of things I do, like I never thought of culture and beliefs before. I may sometimes have gone to the community in the informal settlement inappropriately dressed. I never considered those things before. And also how you respect people by what you say Nellie says that she needs to be clear on Waste Management as a whole and link back to EE goals. She notes that her issue was on waste management in Ekurhleni, but she focused only on office recycling in their office, but she developed a program on waste management at a school. So she thinks she needs to re-look at her contextual profile and then redesign an appropriate program because she has not developed a proper idea of waste management in Ekurhleni Mpumi says that she thinks she wants her program to instill a sense of pride in that community. More discussion continues on the learning program and the types of adjustments that need to be done. Facilitator then moves the discussion to the next aspects on the program. She asks each person to make a note on strips of paper the resources or LTSM that their programs are using. She then asks them to explain the type of LTSM that they noted and why they think that LTSM is appropriate for that group. They have to clarify their LTSM in their program to the group. Each participant is given an opportunity to discuss the LTSM that they will use. Facilitator then puts up a key question on a card "How are the materials we identified supporting us to achieve our outcomes of learning for environmental action?" She asks the group to take a few minutes and have a meeting with themselves and to think about that question. She gives them 5 minutes to think about this question. She then starts to go around the room and gives each person an opportunity to talk about their LTSM.	Deconstruction of personal workplace practice through engaging in discussions and tasks underpinned by readings and questions. Difficulty in completing the workplace tasks grounded due to different profiles of people developed.
433-435	recycling. She would like to show the poster and talk the people through it. She thinks that would help the participants get into the process, but then she would supplement with other activities and resources to ensure that the participants then make meaning of the process.	
437	Mpumi – says she would like to have a brochure and a poster	
441	Facilitator refers participants to the manual Pg 2. Takes participants through the questions and	
445-446	Participants come up with some criteria by which to look at the material. They discuss issue of fairness, biasness etc. Discussion method used to consolidate the ideas of the group. Dathi	Reading, discussions, tasks underpinned by questions and engagement in a co-operative interactions supporting learners to be scaffolded to deconstruct practices and think about new practices.
452	he think he would have to develop some supplementary aid to negotiate the material.	
454-457	could be a brochure, worksheet with questions based on the poster. The discussion then moves on with the facilitator drawing on what the group discussed as a criteria and posing the question to the group " Does it foster an awareness and understanding of the environment?"	
458	Belinda notes that it does. She feels that her resource is presenting one perspective though	
463-467	after scenario it is addressing her issue. Mpumi says that it is showing people a problem and then a solution so it is not leaving people with just an problem and no idea on how to solve it. But she thinks her resource may not be sensitive to the group she has. Facilitator asks her then we won't always find a resource we are comfortable with or that everyone in the group would be comfortable with, so what should you do as a facilitator, what would your role be?	
471-474	Mpumi says that it still would be a process that pulls at people emotion and perhaps they would still remember it. It could also generate a lot of discussion and maybe that is what people will remember. Nellie says that people may emphasize what they saw and forget about your point. Feels	Questions dialogue and discussions, using own contexts in terms of workplaces supporting learners to rethink practice.
480-482	it is correct. This is now opening all this for me. Now that I see this. I suppose it is about making the most informed choice and depends on what I want to use it for. Facilitator exclaims good for you! You really starting to think about your resource.	Engaging in dialogue on own contexts.
484-485	promoting problem solving or suggestions on taking environmental action, so how do they think the resource they have is doing that or not doing it/	

492-499	the school could help to do this. Facilitator asks Nellie if the physical resources would support her goal . How will she use the resource. Nellie says well I think I am goooing to need a support aid to get people to a pont of thinking more carefully. Facilitator asks her how would people link the physical resources to what she wants. Nellie notes that when she spoke to educators they said they had many issues when starting to recycle. I think I would need to introduce then and then actually see them put it together. Discussion in the group ensues that prompts Nellie to think more critically about what she is	
502	Eventually the facilitator consolidates the task and asks the group to consider the changes	
505-514	The facilitator shows them the task in the POE and tells them they have the afternoon to work on the task. Each one of them will have to present their adapted LTSM and Learning Aid first thing in the morning, so they must be prepared. Belinda says that maybe they don't need to change the whole resource. Maybe they will only need to adapt part of the resource because the groups are different. Group referred to manual and the adaptation possibilities sheet in the manual. Facilitator takes group through the possibilities sheet. Possible ways of adapting is discussed e.g. language, font, examples etc. Group is given the space to work on their task; facilitator goes around seeing if anyone needs clarity. She remains in the room to support any learners who are struggling with understanding the task.	Portfolio Tasks provide the opportunity for scaffolding learners to acquire new knowledge.
521-528	undertake a peer review of each others tasks, i.e. the resource. Thereafter they will begin on the process of designing a new resource and not adapting. To help them think it through there will be a case-study undertaken in the form of an interview with a resource developer (Rachel who was involved in the environment matters series books that was developed by GDARD and used by the Zoo and by the municipality). Tomorrow they will be involved in a presentation of the ideas they have for the design of an original resource. Facilitator starts of by asking the group how they managed with their task. She asks them to reflect back on the previous days process. Asks them what was two things that was	Co-operative learning involving real case studies scaffolding learners to deconstruct experiences to acquire new knowledge.
534-535	Facilitator asks her so if she feels that way what would she do differently in her workplace practice.	open-ended question contextualised to workplace practice scaffolding learner practitioners to reconstruct a new practice.
585-593	Facilitator then asks the group to think about their work and what are the implications for the resource/LtSM for their work? Everyone is given a worksheet and asked to present their LTSM i.e. what was the original and how they adapted. Group asked to set the criteria in the empty spaces provided. Through discussion they look at criteria they set yesterday and make suggestions for today. Thereafter they use the criteria and look at each others work. They group themselves in pairs and present their LTSM to each other. Thereafter they discuss, question each other and then assess the resource and add comments and make suggestions. Good discussion happens	On-course tasks with questions support scaffolding through discussions in group settings.
595-609	After that the facilitator asks them to report back on the process and the LTSM. Nellie notes that how one is going to present the poster was a point that emerged for her. She said that they could explain their poster to each other, but how they were going to use it they found difficult. Dathi struggled to explain. Facilitator then posed questions to help the participant think through and explain. Mpumi then explains that the supplementary aid would help with the adaptation. She then explains what she picked up from Dathi's resource and that her concern was about language and therefore she thinks there is a need to have something to support the poster. Mpumi noted that she was going to use urban jungle and she will substitute it with pictures from the local area. She would use vernacular because when she visited the group most of them spoke in vernacular. She noted that she was trying to address both the suburb and the shacks. She would also consider the issues of culture through how she dressed when she went to do her workshop. Nellie worked with Jane. Nellie explained that she would run the workshop for teachers.	Questions Presentations and discussions
612-614	The facilitator then asks the group to use 5 words to explain what they want to achieve in using the identified LTSM. Group given time to think and to write it down. Nellie: she wants to achieve a clear understanding of improved recycling practice.	

617-644	Facilitator then moves the group on to discussion what you would consider when designing an original resource. She introduces Rachel a materials developer who project managed the Environment Matters series books and liaised with GDARD, GDE and GIED. The group was given a worksheet with some questions to help guide them through the process as they had a conversation with Rachel. The session was run more as a dialogue session or having a conversation with her, rather than her being the expert. Initially she explains the development process, how the team was set up, the process that they followed, how the content was decided on, the trialling of materials, the challenges faced, distribution and evaluation of what they learnt. This provided a brief insight into the materials for the participants. Participants listened and made notes initially and then they decided to have a conversation with her. Mpumi asks questions on how the monitoring and evaluation was done. Rachel explains that this was a weakness of the project. Belinda notes that the Monitoring and Evaluation was insufficient and the consultation process whilst it was large was a bit lacking. Discussion process looks at the issue of partnerships. Exploration on how the relation between the partners was and the tensions that existed. One key aspect mentioned was that their was a champion in GDARD but that there was no champion in GDE which posed a challenge. Facilitator draws in the idea of terms of reference for a project of this nature. Discussion on setting up terms of reference is undertaken. Another aspect that was brought up by Rachel was the setting up of a Memorandum of understanding and the challenges faced when people in project moves. Handing over process of the project. When people leave they take everything with them. Group has an intense discussion on these aspects. Nellie asks the question "what would you change in the books if you had an opportunity?"	Using real situated examples of LTSM produced in Learner Practitioners contexts supported through examples from an experienced materials developer and enhanced through discussions and dialogue and questions.
648-649	terms of the timeframes. Why particular art work was used and how it was decided on needs to be considered.	
651	Mpumi notes that they not aware of what LTSM is in the department, because the different	
654-659	Belinda who is a manager in GDARD notes that it is good that they had this discussion because it has shed light on some of the frustrations they have. She notes how important this discussion was because they currently have funding for re-printing these materials without understanding the complexities associated with the project. She notes that it is good to hear the challenges faced because they can plan better for their projects and programmes in the future.	Learner practitioners seeing opportunities for enhanced workplace practices as they have a conversation with the materials developer. opportunities for deconstructing practices and considering a reconstructing new practices.
663-677	The group comes back and on cards write down the key elements that need to be considered when designing materials. Sequence it into a process and then had to brainstorm each aspect as they read the file. Discussion. Given the tasks to complete from part two. Thereafter they asked to consider aspects on copyright. They work through the task in the manual on copyright. Discussion. At 14h30 they are introduced to the big task of designing an original LTSM. Facilitator tells the group that they have spent a considerable amount of time on designing an original resource. Their task is to think about an original resource they could develop to address the environmental issue they identified with the group they mentioned. Required to present a plan of their resource in the morning. They are introduced to the POE task. They are given the rest of the time to think and plan their resource. Each person starts to think and brainstorm. Work individually.	POE workplace tasks used as scaffolding learners to new reframed practices.
685-686	Facilitator recaps the process. Discussion of what was significant from yesterday. Facilitator then recaps the task that the group had to prepare and present this morning.	

691-718	Each person then presents their plan for their LTSM. Nellie volunteers first. She shows a draft plan of her resource. She first explains the context of her resource, that is who the group is, what issue they will be looking at. She notes that she will focus on the what and how they will recycle. Talks about a board game of different pictures. Team members will have statements to match to the board game. Facilitator asks her what type of pictures and questions she will use. Nellie notes that she will ask question more on type of paper and recycling. Facilitator asks her how she will supplement the content knowledge. Nellie notes that she will have supporting learning aids. Facilitator asks her who she will consult. Nellie notes that she will ask a colleague, because this is the first LTSM she ever developed so she thinks she would ask a colleague who has had a lot more experience. Facilitators ask her to send a draft action plan by Wednesday so that she can get feedback. Provide the support at DEC to trial and get feedback before she finalises the material. Each participant presents their plan and questions are posed by the facilitator to get them to think more deeply about what they presenting. Mpumi notes she will be developing a poster for the reclaimers in the rooikraal informal settlement. She clearly outlined the context. Notes that her learner sheet will have lots of pictures and vernacular. She notes that her LTSM will cover aspects on what does the law say. She noted the vision of job creation. Mpumi emphasized the simplicity that is required. She will look at waste management in general and the benefits. Facilitator asks her if she found that the LTSM was linking directly with the Learning Program. They then discuss and find that is linking with aspects that she feels is necessary to cover. After all the participants have presented and received feedback on their ideas the facilitators congratulate them on having managed to have such a concrete idea on their LTSM.	Presentation provide the catalyst for a dialogue and discussion with key questions scaffold learner practitioners to think deeply about their materials.
723-729	Participants are introduced to all the POE tasks and it is explained. Opportunities provided for questions. Participants then told that they can continue working on their POE task if they want, or they could work elsewhere if they felt more comfortable. Most participants choose to continue working at Delta.	

Coding

Context-based through real experiences and experiential learning opportunities

Reflexivity

Scaffolding

APPENDIX 5: SCAFFOLDING AS NOTED IN LEARNING TASK IN MODULE 6

Type of task	DESCRIPTION OF TASK	SCAFFOLDING METHODS USED
Unit 1 Activity 1	What helped you learn? Thinking about something that helped you learn Think about an object, or printed material, that you have learned something from in the past. Make a list of the key features that you liked about it and what you learned from using it. Share your ideas about the resource with the other participants. (D5, p. 7, AM4)	Using prior knowledge Use of questions cooperative strategies through sharing with peers.
Unit 1 Activity 2	Looking at printed materials During this activity we will now explore features of printed materials - Choose one of the materials from the selection provided. Choose ones you find in your workplace/library/ etc. - Answer the questions about it on the record sheet on the next page. - Share a few key points about your choice of material with others. - In plenary, have a discussion about printed materials and their use as learning support materials. During the discussion, you will identify some criteria that can be used to help assess printed materials. (D5, p.8-11, AM4)	Use of questions moving from the simpler to more complex questions. Discussion through co-operative engagement
Unit 2	ACTIVITY 8: An adapting exercise Adapt materials to suit a case study. - For the learning programme described in Box 2.5 the facilitator chose the materials shown in Box 2.7. Which one/s do you think need to be adapted to make them more suitable for the programme? Describe the way in which you would adapt them. - Do some research to find examples of materials that have been adapted to suit particular contexts. You could also interview your colleagues to find out what has been done in your workplace. (D5, AM4) Make a list of some of the benefits of adapting materials and the challenges ACTIVITY 9: Adapting materials for your learning programme Plan and adapt materials for your learning programme - Select an example of material from your collection that you think could be adapted for your learning programme. Use the form below to plan how you would do this. - Adapt the materials for your programme. In your portfolio, you will need to include a description of how the materials were adapted. If appropriate, you can include the actual materials in your portfolio or photographs of them. (D5, AM4)	Case study Questions – probe deeper thinking Learning from peers – co-operative learning Conceptual scaffolding

APPENDIX 6: SUMMARY OF LEARNING TASKS ON-COURSE AND WORKPLACE TASKS - MODULE 7

Type of Task	Description of Tasks	Type of Scaffolding Methods Used
Learning Task	LEARNING TASK REFLECTING ON METHODS - Look at the activities and the methods you have suggested for your environmental learning programme. Examine whether your activities and methods suggested are learner- centred or teacher centred. - You should be able to motivate why you chose the particular methods that you have included in your learning programme. - Do the methods you have selected link to the goals, principles and ideas on education and learning we have looked at and explored through the reading on environmental education? Motivate your answer.	Questions used to help frame understanding and then readings used to help extend and expand the Understanding of the methods. Use of semiotics through language as embodied in the form of texts to help mediate the content.
On-Course Task	TASK ONE: ON-COURSE TASK An on-course task has been set to help you to finalise all your arrangements for the implementation of your environmental learning programme. This on- course task is made up of three parts. Part One: The Plan of the Learning Programme Use the form below to help capture all the relevant information of your learning programme. You will be required to do a 15 minute presentation on your learning programme to a group of Delta Staff members and the rest of your group. Part Two: Preparing for Implementation of your Learning Programme 2.1 Developing your Implementation Plan for your Environmental Learning Programme Within this task develop and design your implementation plan for the learning programme..... 2.2 Designing your evaluation for the implementation of your Environmental Learning Programme. In this part you are developing two things: 1. An Evaluation Plan. 2. Report outlining the key thinking into the Evaluation. 1. Develop an Evaluation Plan for the implementation process of the programme. (Use all the information from the evaluation module (Module 5) to help guide you through this process)..... Part Three: Setting up an Administrative System This activity requires you to set up the administrative system within which the project will operate and be implemented. Section and clearly label all aspects of your work in this section. (D10)	Co-constructing knowledge through discussions and presentations together with peers and more experienced individuals. Decreasing the types of scaffolds in the task. Task is more open and contains fewer questions although some questions exist.
Workplace Task	TASK TWO: WORKPLACE BASED TASK: IMPLEMENTATION OF YOUR ENVIRONMENTAL LEARNING PROGRAMME This task requires you to capture all aspects relating to the implementation process of your environmental learning programme. You need to implement the learning programme with the relevant learning group you are working with and provide evidence that you have implemented the programme.....	Requires more independent and autonomous learner-practitioner to implement the programme.

APPENDIX 7: TABLE 4.6 - EXAMPLES OF READING AND INTERACTION WITH PEERS AS PEDAGOGICAL APPROACHES SUPPORTING REFLECTION

DATA SOURCE	MODULE 3	MODULE 6	MODULE 7
Extract from Course Materials	<i>This is an extract from the learner manual.</i> STOP AND THINK: Read Annexure B – examples of various methods that could be used in EE programme development. Which method have you used effectively? Why did they work? Which method have you not utilised that could be relevant within your context? (D2)	ACTIVITY 3: Choosing materials ❖ Choose some material and explain how you would use it in a given context ❖ Your group's task is to select and adapt learning/training materials to use in a particular learning programme. Your facilitator will give you a card with a description of the learning programme, who the programme is for and the context in which it will take place. ❖ Discuss how you will use the materials in your programme ❖ Make a short presentation to the rest of the class ❖ Listen to the other groups' presentations. For at least one other group, complete an evaluation form based on Table 1.1. Give constructive feedback to the group based on your assessment (formative assessment). ❖ Reflect on the feedback your group received. Discuss what you could do differently next time. ❖ In plenary, discuss the process. Reflect on the feedback your group received. Discuss what you could do differently next time. (D6)	LEARNING TASK: EXAMINING EE LTSM <i>Hart, Jickling and Kool (1999) suggested some broad criteria to look at when examining EE LTSM. They have built on work by Eisner to help guide us in thinking about EE materials. He asks us to think of the messages that the material carry. Use these questions to help you think critically about your LTSM and other EE materials you are using. (D8)</i>
Main pedagogical strategy	Reading with supporting questions	Group work and cooperative learning with supporting tools e.g. a worksheet	Using Readings to reveal knowledge in terms of own practice
Reflective element of this pedagogical strategy	<i>The reading surfaces aspects that people don't know and are unaware that they don't know.</i>	<i>Reflection is supported through listening to presentations, dialogue and receiving feedback from peers. Peer feedback helps to reveal what the learner-practitioners do not know.</i>	

APPENDIX 8: TABLE 4.10 - ANALYSIS OF MATERIALS ON THE COURSE

Category for Analysis	Module 3	Module 6	Module 7
Extract from Course Materials	4.4 FRAMING CONTEXTS WITHIN EE PROGRAMME DEVELOPMENT In this section, we will explore the idea of context. Context is a word we use to describe a person or community's personal environment. Think about some of the ideas, trends or beliefs affecting your life from other parts of the world. Although we are all affected by these ideas, beliefs and material changes, we are affected differently, depending on whom we are, the things we believe, where we live, the beliefs of those who live close to us and many other factors. We could say that we are all affected by global changes in different ways, depending on our contexts. Think about this: Why is it useful to be able to describe a context? How can framing the context of a person, place or community be useful when dealing with adapting or developing learning programmes? Understanding the context of a person, place or community helps us gain insight into how each is affected by both environmental issues and risks and by the actions taken to address them	MAKING A 'CONTEXT' SCRAPBOOK In this activity you will make a scrapbook in which you will stick different types of information that tell you something about the context (situation, or general environment) in which your learning programme will take place, and the lives of your learners. It may include: • pictures cut out from magazines or newspapers • actual photographs taken around the area • short words or phrases to describe places • quotations from learners and other people about their aspirations, or the challenges they face • any other types of material that you think are useful to show something about the area – even pieces of grass, soil (e.g. if soil erosion or dust is a problem in the area), transport tickets, receipts, bills, packaging materials for local food It is up to you to choose what to include and to use the materials to tell your story of the area and the challenges and expectations of the learners and educators who will be involved in your programme.	UNDERSTANDING THE CONTEXT OF THE ISSUE In unit one you identified an environmental issue or risk. Thereafter you developed a contextual profile to try and understand the issue. Annexure 3 is a contextual map which you could use to guide you in trying to capture the key ideas about the context in which your issue is located. A Contextual profile was developed as a guide to help you gather the following information relating to the environmental issue you identified within your work or community. The history and background of the issue. The people impacted by this environmental issue. Understand the policies and conventions within which the issue is located. Develop an understanding of the socio-economic impact of the issue. How cultural systems and beliefs have influenced our view of particular environmental issues. How political systems have influenced the issue. Impact of the issue on the biophysical environment. Use the Context map and contextual profile that you developed in module one to help you contextualise the issue. The problem tree was used as a basis for analyzing the issue. (Refer to module 1).
Purpose and Intention of Activity	All three examples provided highlight the importance of context and understanding the personal context of the “person, place or community” with whom the learner-practitioners will be working. The intention as contained in the course materials is to explore ethical belief systems, situated practices, social systems which influence people's lives as a way of understanding the issues and the needs of the people so that more sustainable solutions can be imagined. The intention is for learner-practitioners to acknowledge that the individuals they engage within their workplaces are also embedded in a context as noted in the text “helps us gain insight into how each is affected” that will influence how they understand, interpret and respond to environmental challenges in their environments. Module 7 task elaborates on the understanding of the environmental issue. The use of the “context map and the contextual profile” is used as a method to frame and deconstruct the environmental issues according to the social, biophysical, economic, political and cultural perspectives.		
Pedagogical Approaches	The use of open-ended questions which act as prompts and draw on learner-practitioners' experience through a learner-led process.	The development of a context scrap book underpinned by key open-ended questions and the use of photographs, articles, pictures or quotations to document the “story” of the group.	Problem-based contextually relevant environmental issue formed the basis for the work and developing and designing appropriate and relevant action-orientated interventions to address the environmental challenge to bring about a changed practice.

APPENDIX 9: TABLE 4.11 - ANALYSIS OF WORKPLACE-BASED TASKS AS CONTAINED IN THE PORTFOLIOS

Category	MODULE 3	MODULE 6	MODULE 7
Extract of the Workplace-based tasks from the Portfolio of Evidence	PoE TASK 2: Workplace based task <i>This is an individual task. In this task you will be required to design an ORIGINAL learning programme, you will then need to organise for the implementation of that programme, gather feedback and use feedback to improve your programme.</i> PART A: Describe the context and learner group <i>Think carefully about the environmental issue you have been researching.</i> - Briefly outline the issue and context that your learning programme is located in (e.g. If it is an educational programme responding to the issue poverty, outline briefly the KEY elements of the poverty you want your educational programme to respond to) - Choose a relevant learner group that can be the focus in your learning programme. Justify why you have selected this group. - Describe the context of the selected learner group – community setting, age, interests, special needs etc...(D4)	PoE: TASK 3: Workplace-based tasks: This section emphasises that this is original material and not an adapted one. <i>During the course of Part 2 of this module you will develop original learning support materials for the environmental learning programme you are working on, for the target group you have already identified. You will produce two pieces of evidence for your summative assessment task:</i> 1. A Learning and Teaching Support material or set of resources to support your learning programme. The materials should fulfil the needs of both learners and facilitators, for example a worksheet and materials for learner activities, plus background reading and a worksheet memorandum for the group. (This LTSM can range from a brochure, to a poster, a DVD or any other form of relevant LTSM. It must be appropriate and in keeping with your line of work). This must be an original concept and not be adapted in any way... .. 3. Look at any LTSM, e.g. a brochure or a poster, that was produced by you or your organisation. Critically look at the LTSM in line with the criteria that you set up in part one. Include a copy of the LTSM or a photo of it and your critical evaluation of it. <i>Make suggestions (1 page) on how you think this resource could be strengthened or enhanced, if it needs to be. ()</i>	PoE TASK 2: Workplace based task: Implementation of your environmental learning programme <i>This task requires you to capture all aspects relating to the implementation process of your environmental learning programme. You need to implement the learning programme with the relevant learning group and provide evidence that you have implemented the programme.</i> Part A: Evidence of Implementation Compile a 10 page Report on the implementation process. The report should cover the following aspects: <i>The background to the programme The target group The logistics of the programme (how you made all the arrangements). Discuss the actual implementation: include a copy of the programme, photos of the implementation explaining what you really did with the group and the methods and approaches that you used. (Video if available). Explain how the methods and approaches used linked/ did not link to the principles and goals of environmental education and outcomes based education. In what way did the methods, approaches and activities contribute to active learning? How the LTSM used helped the learning process and how it was used? How you managed the group? How the implementation considered issues and principles of sustainable living. How you ensured the safety of the learners whilst conducting the environmental learning programme. What role the different stakeholders played? Discuss how you managed the budget in the implementation process. (D)</i>
Pedagogies supporting context-based learning approaches through assessment	Through the workplace-based tasks in the portfolios across all three modules, experientially based methodologies are used because it draws on the work done in the workplace. The learner-practitioners are required to address a local problem which they encounter in their work context, using an open-ended but structured action research process. A typical framework followed for the workplace-based assignments follows the following steps: investigate (a problem), plan (an action considering the people, the issue and the resources needed (Module 3, 6), implement the planned action (Module 7), check (the effects of the action), evaluate the outcomes of the action and then reflect (on the outcomes), suggesting a better solution to the problem.		

APPENDIX 10: PERMISSION LETTER FOR RESEARCH FROM CANDIDATES



delta environmental Centre

ENVIRONMENTAL EDUCATION, TRAINING AND CONSULTATION NETWORK

APPROVED EDUCATIONAL FUND I.T.O. SECTION 18A OF INCOME TAX ACT
COMPANY REG. NO. 1975/000010/08 NOT FOR GAIN REF. NO. 01 100030 000 OF FUNDRAISING ACT
1978

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14 April 2010

Dear _____

Permission to Conduct Research

Currently I am a student at Rhodes University completing a Masters Degree in Environmental Education. As part of my research I have identified the EETDP National Diploma that Delta Environmental Centre is offering as my research focus. I am investigating the relationship between the course pedagogy and workplace learning.

The key question that I am looking at is:
How is the pedagogy of the DEC EETDP Diploma supporting workplace learning?

In order to answer this question, the research will need to address the following **research goals**:

- ❖ Understand the context, history and intentions of the course pedagogy.
- ❖ Explore and describe professional practice of the learner-practitioners.
- ❖ Investigate how the course's pedagogy supports praxis and the development of capability.

The research will be conducted with a view to:

- ❖ Informing future pedagogies for workplace-based EETDP courses.
- ❖ Informing and improving the design of NQF-aligned workplace-based courses in the context of socio-ecological sustainability.

In order to conduct this research I will need to observe the course participants implementing their programmes in their workplace, interview the course participants, observe the training that is conducted and interview the different stakeholders e.g. facilitators and designers of the course.

I hereby request your permission to use you as one of the course participants that I would like to follow in gathering the data for the research. All information will remain confidential and your name will not be used without your consent or permission.

Thanking you

Misses

I, _____ hereby grant/ ~~do not grant~~ permission for Shanu to use me as part of the research.

Date: 18 MAY 2010

Sign: _____

Member of

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The World Conservation Union