Investigation of Learning in an Environmental Skills Programme: A Case Study of Workers' training in the Department of Environmental Affairs Expanded Public Works Project.

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ABSTRACT

This research project examines a case of environmental training for workers in the Expanded Public Works Programme, a poverty relief programme operating in South Africa (EPWP). It is constituted as an interpretive case study, and explores what workers learn and how they learn in an environmental skills programme. The study also examines the context of learning. In accordance with education and training policy, what learners are meant to learn is articulated in unit standards registered on the South African Qualifications Authority website. The unit standards are used to design curricula and learning programmes which are registered as environmental skills programmes by Sector Education and Training Authorities (SETAs). For the conservation sector the SETA is the Tourism and Hospitality Education and Training Authority (THETA). To develop an understanding of what learners learn, I considered the content, concepts, skills, values and attitudes contained in the unit standards, and then considered the actual learning taking place during the training programme focusing on three unit standards.

Data was generated from semi-structured interviews with facilitators, focus group interviews with learners, observations of teaching and learning interventions and document analysis of EPWP, training and skills development policy documents, registered unit standards for the skills programme, and learning support materials produced by the provider implementing the training.

The study notes that there is learning taking place within the training implemented through environmental skills programmes. The training is influenced by a number of diverse contextual factors namely policy factors, historical contextual factors, the economic context and diverse literacy levels. Learning interactions involve a variety of social interactions, activities and practices between learners and learners, and learners and facilitators. The main finding of the study is that the training programme's major emphasis is on concepts and content, and social and learning skills, and values and attitudes. The prominence of social skills masks a neglect of practical workplace related skills which make up a strong focus of the unit standards. This, the study shows, is related to a lack of engagement with workplace learning, which in turn is linked to a disjuncture between policy and practice, where workers working in the EPWP programme are meant to benefit from training, but in this case it was found that community members, who were not working in the

programme were being offered training. It was therefore not possible for them to develop the applied workplace skills, which were also meant to facilitate increased employability, as this is one of the key objectives of the EPWP programme.

Based on the insights raised by the research findings the study made recommendations that the programme consider the following to recover the situation: to develop strategies that allow for longer term training frameworks so that learners can be trained on full qualifications so that they may qualify and benefit more substantively from the training in terms of employability skills. Facilitators in the programme need to be trained so that they can develop materials that address practical skills, values, attitudes, critical reflections and actions. Monitoring of training needs to be given preference both at materials development level and implementation level.

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LIST OF ABBREVIATIONS AND ACRONYMS

EPWP	Expanded Public Works Programme
SRP	Social Responsibility Programme
DEAT	Department of Environmental Affairs and Tourism
DEA	Department of Environmental Affairs
NQF	National Qualifications' Framework
SAQA	South African Qualifications' Authority
SETA	Sector Education and Training Authority
NEMA	National Environmental Management Act
ETDP	Education, Training and Development Practitioners
CBOs	Community based organizations
CBPWP	Community Based Public Works Programme
MDGs	Millenium Development Goals
RDP	Reconstruction and Development Programme

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION

Chapter 1 introduces the context of this research. It commences with the discussion of the status of poverty in South Africa which led to the establishment of the Expanded Public Works Programme (EPWP) in South Africa. The development, composition, pillars and the functioning of Phase 1 of the EPWP (hereafter referred to as EPWP Phase 1) is discussed. The EPWP forms the core contextual setting in which this study is situated as I work within the skills development component of the Expanded Public Works Programme. The relationship between the skills development aspect and the EPWP Phase 1 are discussed at length. Towards the end the discussion leads to the research questions and a brief overview of the study is provided.

The Oxford Dictionary (1997) defines issues as “subjects of concern”. Poverty is a subject of concern to South Africa and to the whole world as shown by the Millennium Development Goals which are a global proposal to reduce poverty by half by 2015 (United Nations, 2007). The conference of experts which was held after the Stockholm conference with Swedish participants in Belgrade in 1975 recommended that one of the concerns of environmental education is to deal with the environment as a whole, meaning that it deals with ecological, political, economic, technological, social, legal, cultural and aesthetic standpoints. (Wickenberg.2000: 12) Poverty has been identified as one of the socio-ecological issues which influence the degradation of the environment.

The history of environmental thought shows that environmental issues cannot be divorced from social issues like poverty, particularly on the African

continent (UNEP, 2006). When societal issues are not addressed they end up impacting on the environment, for example, when people are hungry, they end up exploiting the scarce environmental resources. On a positive note, the solution to the above problems can open a way for communities to understand the complexities of the environment which can lead to their own transformation and social change and that is why this study is looking at issues and activities around poverty in South Africa.

1.2 POVERTY IN SOUTH AFRICA

This study focuses on one of the interventions designed to address poverty in South Africa. South Africa is classified as a middle income developing country but its income distribution is skewed and unevenly distributed. Poverty exists side by side with the rich, modern cities, developed mining, industrial and commercial infrastructure.

There are diverse and many definitions of poverty and they vary among nations. Rich nations employ more generous standards of poverty than poor nations. Poverty is defined as an economic condition of lacking both money and basic necessities needed to successfully live, such as food, shelter, water, education, and healthcare (Donald, Lazurus & Lolwana, 1997). Poverty has been cited by Lotz-Sisitka (2004) as a major factor influencing environmental problems in southern Africa. Its characteristics in southern Africa include household food insecurity, poor health, poor sanitation and low educational attainment (ibid 2004,124). According to Mdladlana (2005) it is perceived to include households characterized by hungry and malnourished children, overcrowded home conditions, homes in need of maintenance, homes lacking safe efficient sources of energy and clean water. In rural communities, women walk long distances to fetch water and gather firewood. There is a lack of adequate paid secure jobs, lack of employment opportunities, low wages and lack of job security and disintegration of families (Mpako-Ntusi, 2002). In response to the above conditions job creation, education, training and skills

development were recommended as the strategies for addressing poverty and inequalities of the past by the Reconstruction and Development Programme established by the new ruling party of South Africa in 1994 (ANC, 1994).

The World Summit of Sustainable Development held in Johannesburg also placed poverty eradication at the centre of efforts to achieve sustainable development. It confirmed the global commitment to the Millennium Development Goals (MDG), which places the eradication of poverty and hunger as the first MDG goal of the millennium development goals (MDGS) and set a target indicating that poverty should be reduced by half by 2015. It reinforced the notion of development that aims for equity within and between generations. (United Nations, 2005).

Attacking poverty and deprivation were declared as the first priorities of the South African government after the elections of 1994 and a need to establish a sustainable programme to meet the objective of freedom and quality of life for all South Africans was identified. The Reconstruction and Development Programme (mentioned above) provided such a plan, which also recommended the empowering of women and youth so that they can reach their potential. Programmes for training, education and job creation were recommended to empower them (ANC, 1994: 22).

A study conducted by Armstrong, Lengezwa and Siebrils (2006) in the University of Stellenbosch's Department of Economics presents an analysis of South Africa's poverty situation. The analysis indicates poverty rates in South Africa according to provinces. Income and expenditures of households are the ways in which poverty is measured in South Africa and are reflected in percentages. In 2006 the poverty rates ranged from 24.9 % in Gauteng, 57 % in the Eastern Cape and 64% in Limpopo. The provinces with the highest poverty rates are KwaZulu Natal, Eastern Cape and Limpopo. When classified

by means of households, those in the rural areas are in worse poverty than those in urban areas.

Poverty is also related to education levels, with poverty levels being higher amongst those with no schooling. The University of Stellenbosch study indicates that poverty is higher amongst those with no schooling than those who have completed primary education. Poverty is rare amongst those who have obtained a post matric certificate and diploma (ibid, 2006). In South Africa the poverty rate of people with no education is 69%, compared to 54% for people with primary education, 24% for those with secondary education, and 3% for those with tertiary education.

It is in response to this situation that Treasury established the poverty relief programme which is now implemented by a number of government departments, known as the Expanded Public Works Programme.

1.3 THE EXPANDED PUBLIC WORKS PROGRAMME

As mentioned above, the Expanded Public Works (EPWP) Phase 1 forms the main context of this research. The Expanded Public Works Programme was recommended as a short to medium term state-led strategy to address or more accurately alleviate poverty, creating opportunities for infrastructure and other forms of labour intensive development, while also improving skills, so that the unskilled workforce are more equipped to take up skilled work opportunities and benefit from the increasing demand for skilled labour. (ANC, 1994: 16; Kraak & Press 2008.:556) The EPWP programme was

conceptualized as a tool to address poverty and unemployment, a point which is discussed broadly in the coming paragraphs. (McCord, 2008: 555)

The EPWP was announced by the then President Thabo Mbeki in his State of the Nation Address in 2003. It developed to be a nationwide programme covering all spheres of government and state owned enterprises which sought to draw significant numbers of unemployed into the productive sector. It supports workers to gain skills while they work and increase their capacity to earn income. (RSA, 2003)

This programme is divided into four sectors; namely, environment and culture, social, economic and infrastructure. Each sector consists of a number of government departments with one nominated to lead the sector. The Department of Environmental Affairs and Tourism (DEAT, now known as the Department of Environmental Affairs) was nominated to lead the environment and culture sector. Within the EPWP therefore, the environment and culture sector is made up of the following departments:

- Department of Environmental Affairs,
- Department of Water Affairs,
- Department of Arts and Culture,
- Department of Agriculture, and
- Department of Science and Technology.

The EPWP is hosted by the Department of Public Works but each of the participating departments fund a substantial portion of the EPWP from its Medium Term Expenditure Framework (MTEF) allocation. The departments concerned report to the Department of Public Works and to Cabinet on their performance in respect of the EPWP. EPWP Phase 1 had two pillars; namely, job creation and skills development of the unemployed. Skills development entailed the training of workers working in the EPWP projects, as noted here:

"Training is regarded as a critical component that strives to equip workers with skills that can be used to secure other employment opportunities and assist them to identify possible career paths available to workers exiting the programme". (Department of Labour, 1997: 1-25).

1.4 MY ROLE IN THE PROGRAMME

I work as a Training Coordinator in the Social Responsibility Programme of the Department of Environmental Affairs, where the Expanded Public Works Programme (EPWP) of the DEA is coordinated at national level. In preparation for training, skills audits are conducted and training interventions are identified according to results of the skills audit analyses. The skills should be relevant to the particular EPWP project and the communities around the project. They are intended to improve the employability of the workers when the EPWP projects have come to an end.

As DEA is not a training institution, it does not package its own training programmes. It utilizes the skills programmes packaged, recommended and listed in the Tourism, Hospitality, Conservation, Sport Education and Training Authority (THETA) website. Most training programmes are offered as skills programmes at level 1-4 on the National Qualifications Framework (NQF). Skills programmes are learning programmes that are made up of a collection of unit standards that will enable a learner to develop a specific skill. Completing a series of skills programmes over a period of time could lead to a national qualification if all of the skills programmes are designed to articulate within a full qualification (DoL, 1998: 15). These skills programmes are used as a key modality for implementing the National Skills Act of 1998. The EPWP projects vary in duration from 6 months to two years. Sometimes the workers are hired to cater for different deliverables on shorter term contracts and after this, they tend to leave. The short term nature of the EPWP training makes it impossible for the workers to be trained in extended training interventions such as year

long learnerships. For this reason the skills programmes become the most widely used form of skills development intervention in the EPWP because of the duration of the projects and worker contracts.

In a review of EPWP training, McCord (2008) reports that because the average employment in EPWP programmes was around 22 days a month, it was not possible to implement the learnership system, despite high expectations of what the skills development discourse in the EPWP was supposed to achieve. Most of the learners on the DEA EPWP programmes receive training at NQF level 2, which is where this research will be focused. DEA contracted accredited service providers to implement training in the projects. My responsibilities involve reviewing and quality managing these training programmes for DEA. I therefore receive the reports from the service providers at the end of training and I facilitate payments to service providers. Besides these more technical aspects of quality management, I am also interested in understanding more about the quality of learning that takes place during the training programmes offered by service providers, which is why I have undertaken this research.

According to McCord (2008) there is conflict between the expectations raised by the EPWP Phase 1 training component and its implementation. In the infrastructure sector only managers not beneficiaries were trained in construction learnerships as prescribed in the EPWP documents. Most of the EPWP beneficiaries received training in Life Skills and HIV/AIDS training, rather than skills that are in demand in the labour market. Job creation without skills development did not lead to sustainable employment. The findings as discussed by McCord (2008) mostly emphasize discourse and policy issues. No research has been done, and no mention has been made of how the learners learn or whether there is any learning that takes place during the participation in the EPWP skills development programmes.

Chisholm (2007) critiques the NQF. She states that the "NQF and outcomes-based education have more impact on the discourse than on the practice of education and training policy intentions". She asserts that in practice, credit–based qualifications have not provided for quicker progression up the educational ladder as the qualifications framework promised. She states further that the NQF is just an assessment framework not a provisioning framework and learners do not have the requisite prior skills and knowledge to make use of the assessment framework (Chisholm, 2007: 303). While she critiques the implementation of the NQF, she makes no mention of how the learners learn at these different levels. This reveals a gap in educational research focusing on NQF accredited training in the EPWP programmes, hence my interest in researching the *learning* in the EPWP programmes.

My concern for researching "learning" is supported by Rickinson (2008) who argues that environmental learning has been under-researched and under-theorized in the field of environmental education. He states that its emphasis has been on what the teachers teach and learning outcomes and very little has been done on learning processes, learners' experiences, learning theories and learners' responses to environmental programmes. That is why the emphasis of this research is on what learners learn and how they learn in environmental skills programmes. It is trying to address the lack in this field as identified by Rickinson in his writings.

The term environmental learning has varied academic meanings and vernacular interpretations. It can refer to learning through outdoor environments, environmental cognition, and broad conceptualizations of learning that occurs when learners engage with content that pertains to environmental issues, nature, conservation and social change (Rickinson, Lundholm & Hopwood, 2009; Scott & Gough, 2003). In this study the learning of workers in nature conservation sites is observed. They are being trained in a conservation general assistant skills programme. This skills programme has

been identified because of its relevance to the project with a hope that it will assist the workers to work better in the project.

1.5 BACKGROUND OF THE SKILLS PROGRAMME OBSERVED

The conservation general field assistant skills programme was developed by the THETA and is composed of 10 unit standards with a total of 50 credits**.** The need for this skills programme was identified through research which was conducted by the THETA through the sector skills plan. The Sector Skills Plan research indicated the need to provide for skills to implement the South African conservation strategy. It identified inter alia a need to have properly trained professionals in conservation to improve conservation management.. Due to the legacy of apartheid, Black practitioners in the conservation sector were denied advancement and recognition as qualified tradespersons. To provide for access (at level 2) to the conservation sector, THETA registered this qualification. It provides entry to people who wish to advance to a National Certificate in Conservation Resource Guardianship. This qualification has been broken down into skills programmes based on unit standards that make up the qualification. A learner who obtains this qualification will carry out conservation maintenance practices within a designated conservation area, combat soil erosion and alien invader plants and perform a liaison function with neighboring communities. The table below provides the SAQA ID, unit standard title, level of the unit standard and the number of credits per unit standard, as used in the qualification and the EPWP training.

Table 1.1 General field assistant skills programme

General Field Assistant:CSV/GF/das/2/005 NQF 2

ID	Unit Standard Title	Level	Credit

8328	Perform basic infrastructural maintenance	2	12
8331	Combat soil erosion	2	2
8493	Maintain occupational health and safety	2	2
8329	Control and extinguish a fire in a conservation area	2	3
8330	Combat problem plants	2	3
8618	Organise oneself in the workplace	2	3
8349	Erect and maintain wildlife fencing	2	4
12649	Understand nature conservation issues	2	4
8494	Demonstrate an understanding of HIV/AIDS and its implication	2	4
8416	Understand and apply personal values and ethics	2	4
8420	Operate in a team	2	4
TOTAL			**45**

Since it was originally developed, the skills programme in Table 1 has been revised by the THETA and replaced with the one in Table1.2. The name has also been changed from general field assistant to conservation general assistant.

Table 1. 2 : Conservation general assistant skills programme

CONS/CONSGENASS/2/0052

Conservation General Assistant			
SAQA ID	**Unit standard title**	**Level**	**Credit**
252453	Combat problem plants	2	3

252457	Combat soil erosion	2	8
244605	Demonstrate ability to participate effectively in a team or group	2	2
8336	Demonstrate knowledge of conservation ethics	2	3
252454	Erect, monitor and maintain wildlife fences	2	4
252461	Ignite, control and extinguish fires in a conservation area unit	2	5
146599	Demonstrate an understanding of factors that contribute towards healthy living	1	4
15092	Plan and manage personal finances	1	5
252450	Perform basic field infrastructural maintenance in a conservation area	2	8
252465	Perform domestic infrastructural maintenance in a conservation area	2	8
Total Credit Value Minimum 50 Credits			

My third interest in this study relates to the fact that the participants of the EPWP are trained while they are working in the project. The training does not take place in a formal training institutional context, but in a workplace environment. Like many other researchers, I am interested in developing a fuller understanding of workplace learning which seems to be differently understood by different researchers.

Bottrup (2006) for example, perceives workplace learning as learning that takes place when one performs normal, routine tasks during daily work, which involves learning in daily work situations. He considers workplace learning as practice-oriented, concrete, specific, informal and easy to adopt. Malcom (2003, cited by Bottrup, 2006) however, challenges the above definition and says that learning should combine elements from both formal classroom learning and workplace learning; in other words combining theory and practice or content and context (Bottrup, 2006:343- 344). According to Grey (1994, cited by Billet, 2004:312) the aim of workplace learning is "to regulate participants to maintain the continuity of the workplace activities". Collin (2006) maintains that the aims and objectives are different for different people. To employers it contributes to the employees' development of the vocational and professional knowledge needed for work. To companies and organizations, when linked to their specific needs it leads to better productivity and increased competitiveness. To individual workers learning in the workplace it leads to personal fulfillment, joy, progress in one's career and a strengthening of self and identity

In this study I, as researcher, am interested in how the workers learn in both the theoretical and practical parts of the skills programme. I am also interested in the influence this learning has in the workplace. The Skills Development Act of 1998 (DoL, 1998) in its meaning of skills programmes does not enforce workplace experience like in learnerships. Despite this, I am interested to see whether the skills programmes have any influence on the work of trained EPWP beneficiaries, besides receiving credits.

1.6 RESEARCH AIMS AND GOALS

The aim of the study is to investigate how and what workers learn through training/ skills development in the environmental skills programmes in selected DEA EPWP projects. To investigate this, I have used an interpretive case study approach with the following goals:

- To Investigate the context of learning in the EPWP skills programmes, including the activities, the learning interactions, and the assumptions and practices influencing the EPWP skills programmes.
- Investigate what and how workers learn through participating in the environmental skills programmes offered to them in the EPWP programme.

With a view to understanding

- Whether the learning in the skills programmes is applied in the workplace, and/ or in the lives of the workers.

1.7 OVERVIEW OF THE STUDY

Chapter 1 presents the introduction and background to the research. It introduces the scope and the context of the study. The context of the study, which is environmental learning and skills development within the EPWP, is introduced. My role, in the context of the research is described. The chapter also presents the research question and the goals of the study and an overview of the study from Chapter 1 to Chapter 5.

Chapter 2 presents the literature reviewed which discusses issues related to this study.

The status, perceptions and understanding of poverty in South Africa, regionally and internationally is discussed. The deliberations about the status and the meaning of poverty are followed by the articulation of the structure, the pillars, the policies and the functioning of the EPWP. A history of skills

training in South Africa is presented. The profile provides the background which enhances the understanding of the current skills development context.

As the study focuses on learning, the different ways in which researchers make meaning of participation in learning are discussed and different approaches to learning, environmental learning and workplace learning are scrutinized and examined. Social and situated learning theories are used as lenses through which the learning interactions and processes are reviewed. These two theories are therefore debated at length.

Chapter 3 This chapter describes the research processes and activities that have been utilized to collect and analyse the data for this research. It commences by explaining the research orientation, methodology, data generating methods as well as the data analysis methods used. Towards the end of the chapter the validity, trustworthiness and the ethics of the study are explained.

Chapter 4 This chapter deals with the presentation of data. The discussions in this chapter commence with a description of the background and the structure of the environmental skills programme which forms the context of the teaching and learning observations for this study. The qualifications guiding the programme are also described. According to the SETA regulations a training provider needs to develop training materials based on the qualification which are then approved by the SETA before it is granted accreditation. The learning materials for this skills programme have been analysed and included in this discussion.

The data and the results of the analysis are described in narrative form organized according to categories and sub-categories that emerged out of the data. A strategy of thick description is used to help the reader understand the

conclusions and the interpretations of the data, and to convey the qualitative nature of the analysis, and the complexity of the topic under study

Chapter 5 provides a discussion of the research findings. The data is condensed into analytic statements that act as the focus of the discussion. The discussion draws on trends discussed in the literature review and the data presented in the thick description in Chapter 4. The different contexts of learning and what and how workers learn in the EPWP projects are discussed through the lens of situated learning. The concluding recommendations are discussed with recommendations for further research.

1.8 CONCLUSION

This chapter introduced the study, and the context in which the study is situated. It also shared insight into the role that I played in the research and how the research links to the work that I do. It also indicated the research 'gap' that this research hopes to begin to fill, namely a lack of insight into how learning takes place in South Africa's EPWP programmes. The chapter also shared the research questions and provided an overview of the contents of the thesis. In the next chapter I discuss the theoretical and conceptual framing of the study in more detail, drawing on literature and previous research

CHAPTER 2
POVERTY, LEARNING AND THE EXPANDED PUBLIC WORKS PROGRAMME

2.1 INTRODUCTION

This chapter discusses key areas of this study. It starts with a more detailed discussion on the issues of poverty in South Africa and the world, and provides a broader contextual profile of the Expanded Public Works Programme (EPWP) and its focus areas; namely, job creation and skills development as responses to poverty in South Africa, briefly introduced in Chapter 1. The history of skills training and development within the environment context is highlighted and further expanded from the introduction in Chapter 1. Learning, environmental learning and workplace learning are also discussed in more detail as they are the main areas of study in this research. Finally the theoretical vantage points, social and situated learning which will guide this study are discussed in some detail. All of these were briefly introduced in Chapter 1 to provide orientation to the reader, but further discussion of these key foci of the study is required to achieve the necessary depth of insight and orientation.

2.2 POVERTY IN SOUTH AFRICA AND THE EPWP PROGRAMME

As mentioned in Chapter 1, this study focuses on one of the major interventions established to fight against poverty in South Africa. For this reason, this chapter commences by summarizing the status of poverty in South Africa. South Africa is classified as a middle income developing country but its income is much skewed and unevenly distributed. Poverty exists side by side with the rich, modern cities, developed mining, industrial and commercial infrastructure. South Africa has a population of about 44,8 million people with a population growth rate of 2,1 percent. Half of all South African households are classified as poor because the members of the households earn less than R353

per adult per month, which is approximately 2 US dollars per day. This situation has led the South African Government to identify poverty alleviation and eventual eradication as number one priority. Job creation, education and, training and skills development were recommended as key strategies for addressing poverty and inequalities of the past (ANC, 1994, DEAT, 2005: 14). This emphasis remains in place today.

2.2.1 Perceptions of poverty in South Africa

According to the Participatory Poverty Assessment (1998, cited by Mdladlana, 2005) poverty in South Africa is perceived to include: "Alienation from kinship and the community, households characterized by hungry and malnourished children, overcrowded home conditions and homes in need of maintenance, lacking safe and efficient sources of energy." (Mdladlana, 2005: 6) In rural communities, women walk long distances to fetch water and gather firewood, experience a lack of adequate paid secure jobs, a lack of employment opportunities, low wages and lack of job security and disintegration of the family. (Mpako- Ntusi, 2002)

Mpako-Ntusi (2002) describes a picture of the development of poverty amongst the rural and urban people of South Africa. She says that the families in the rural areas of South Africa used to work collectively to meet their survival needs. They practiced subsistence farming. Natural resources, human intellect and physical energy were adequate and life was good. In an attempt to change their social conditions and make their lives better they moved from subsistence farming and home manufacturing of goods to economic and industrial farming and migrant labour. People moved to the urban centres. As life progressed natural resources were depleted in the process and great damage was caused to the environment.

The consequences of the above were that rural families that used to depend on subsistence farming and home industries became fragmented, and were

unable to use available land in the same manner, and were consequently unable to produce food. In many places communities were moved off arable land, and settled in areas where land was not very arable, and the climate was increasingly no longer conducive to farming. This situation was exacerbated by global warming, extreme weather conditions such as tornadoes, unpredictable season changes, insufficient grazing and water for livestock and the threats of stock theft.

In urban areas urban industries that have benefited from modern technologies no longer need a lot of workers that used to service them. Machinery is preferred for its reliability and loyalty as trade unions were seen as an additional threat to productivity. The underdeveloped rural areas and the urban areas had no work opportunities for the people hence the high rate of unemployment and poverty.

Sayed (2008) in his contribution to a colloquium on education and poverty reduction strategies, asserts that the definition of poverty and the answer to the question: what is poverty depends on who asks and answers the question. He says there are different frameworks of understanding poverty which are; namely, the human capital, the human rights, the human capability and the social exclusion frameworks. He discusses these frameworks in relation to education.

He asserts that the human capital framework defines poverty as deprivation of economic growth which is deprivation of income. It advocates that through education and training people can develop skills and knowledge which can be transformed into increased productivity. The human right approach poverty defines poverty as deprivation of human rights.

Sayed (2008) notes further that the main thinker of the human capability approach, Amartya Sen developed the theory of capability. He discusses

development as the expansion of people's freedoms to enhance their valued beings and doings. In this framework poverty is seen as capability deprivation because it reduces people's ability to give value to their lives. He argues that poor people are incapable because they lack knowledge and skills for participation. Sayed (2008) further discusses an inclusion framework that differentiates the poor into groups; namely, the landless - poor, ethnic poor, urban poor and rural poor. It advocates that their poverty problems should be addressed according to their different needs because their experiences are different. In most documents, the South African government initiatives and strategies address poverty as lack of income and lack of economic growth and it sees education and skills development as responses to poverty, putting forward a human capital approach to poverty that is undifferentiated as argued for by Sayed (2008) (see Chapter 4). In the next paragraph the international approach and understanding of poverty is addressed.

2.2.2 International perspective

The Brundtland Commission (1987) stressed the links between poverty, inequality and environmental degradation. It urged and recommended that sustainability and poverty should be the guiding principles for future development in the world. It also recognized the gender dimensions of poverty. It commented that more women live in poverty than men and have to cope with poverty, unemployment and environmental degradation. It acknowledged the fact that the poor are the most affected by environmental decline and are the least able to protect it. In their action plans and declarations the UN Conferences stated that poverty eradication and environmental regeneration must be part of the national and international agenda. (UNDP, 2002: 7)

The World Summit of Sustainable Development of 2002 held in Johannesburg also placed poverty eradication at the centre of efforts to achieve sustainable development. It ratified the Millennium Development Goals signed in 2000 by the international community. The Millennium Development Goals presents an international agenda for the eradication of poverty, and places the eradication of poverty and hunger as the first goal of the Millennium Development Goals (MDGS). It set a target which indicated that poverty should be reduced by half by 2015. (UN,: 2002) The MDGs also deal with gender issues, namely women's health; HIV/AIDS and ecological sustainability amongst others (see Table 2.1 below).

TABLE 2.1 Millenium development goals

Millennium Development Goals:

1. **Eradicate extreme poverty and hunger:**
   - Reduce by half the proportion of people living on less than one dollar a day;
   - Reduce by half the proportion of people who suffer from hunger.
2. **Achieve universal primary education:**
   - Ensure that all boys and girls complete a full course of primary schooling.
3. **Promote gender equality and empower women:**
   - Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015.
4. **Reduce child mortality:**
   - Reduce by two thirds the mortality rate among children under five.
5. **Improve maternal health:**
   - Reduce by three quarters the maternal mortality ratio.
6. **Combat HIV/AIDS, malaria and other diseases:**
   - Halt and begin to reverse the spread of HIV/AIDS;
   - Halt and begin to reverse the incidence of malaria and other major diseases.
7. **Ensure environmental sustainability:**
   - Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources;
   - Reduce by half the proportion of people without sustainable access to safe drinking water;
   - Achieve significant improvement in the lives of at least 100 million slum dwellers by 2020.
8. **Develop a global partnership for development:**
   - Develop further an open trading and financial system that is rule-based; predictable and non-discriminatory. Includes a commitment to good governance, development and poverty reduction – nationally and internationally;
   - Address the least developed countries' special needs. This includes tariff- and quota-free access for their exports; enhanced debt relief for heavily indebted poor countries; cancellation of official bilateral debt; and more generous official development assistance for countries committed to poverty reduction;
   - Address the special needs of landlocked and small island developing States;
   - Deal comprehensively with developing countries' debt problems through national and

international measures to make debt sustainable in the long term;

- In cooperation with the developing countries, develop decent and productive work for youth;
- In cooperation with pharmaceutical companies provide access to affordable essential drugs in developing countries;
- In cooperation with the private sector, make available the benefits of new technologies – especially information and communication technologies.

www.un.org/milleniumgoals/ (1/2/2004)

Each year countries report on their progress in attaining the Millennium Development Goals. In 2010, the MDG Report had this to say about global progress towards poverty eradication:

> The Goals represent human needs and basic rights that every individual around the world should be able to enjoy—freedom from extreme poverty and hunger; quality education, productive and decent employment, good health and shelter; the right of women to give birth without risking their lives; and a world where environmental sustainability is a priority, and women and men live in equality. Leaders also pledged to forge a wide-ranging global partnership for development to achieve these universal objectives.
>
> This report shows how much progress has been made. Perhaps most important, it shows that the Goals are achievable when nationally owned development strategies, policies and programmes are supported by international development partners. At the same time, it is clear that improvements in the lives of the poor have been unacceptably slow, and some hard-won gains are being eroded by the climate, food and economic crises (Ban Ki-Moon, UN, 2010).

The 2010 MDG report indicates that progress has been made on a number of fronts, namely health care for the poor, provision of Antiretroviral drugs for those living with HIV/AIDS, access to education and some reduction in poverty. Despite this the report indicates challenges notably that the impacts of climate change are being felt most by poor communities, and that in 2009 42 million people had been displaced by conflict or persecution, most of them in developing countries. Levels of undernourishment have continued to grow, and progress to reduce the prevalence of hunger is too slow, with one in four children under five in the world underweight, due mainly to lack of food and

quality food, inadequate water, sanitation and health services, and poor care and feeding practices. An estimated 1.4 billion people were still living in extreme poverty in 2005, and progress in achieving gender equity has also been too slow (UN, 2010).

In more developed countries such as the United Kingdom key features of poverty are identified as lack of opportunities to work or acquire skills, childhood deprivation, disrupted families, and barriers to old people living active and healthy lives, inequalities in health, poor housing and fear of crime discrimination. (Rowntree, 2001: 5) There is a relationship between the elements of poverty addressed in South Africa, and the world, and is an indication that in the whole world there is an outbreak of unemployment and poverty. Providing perspective on this, the latest Human Development Report (UNDP, 2010) uses a new measure for reporting on poverty called a Multi-dimensional Poverty Index (MPI) which overlays money-based measures and multiple deprivations and their overlap. It presents the following interesting findings on the state of poverty internationally and indicates that while South Africa's poverty is complex, it is not as severe as in other parts of Africa or elsewhere.

> About 1.75 billion people in the 104 countries covered by the MPI—a third of their population— live in multidimensional poverty— that is, with at least 30 percent of the indicators reflecting acute deprivation in health, education and standard of living. This exceeds the estimated 1.44 billion people in those countries who live on $1.25 a day or less (though it is below the share who live on $2 or less). The patterns of deprivation also differ from those of income poverty in important ways: in many countries—including Ethiopia and Guatemala—the number of people who are multidimensionally poor is higher. However, in about a fourth of the countries for which both estimates are available—including China, Tanzania and Uzbekistan—rates of income poverty are higher.
>
> Sub-Saharan Africa has the highest incidence of multidimensional poverty. The Level ranges from a low of 3 percent in South Africa to a massive 93 percent in Niger; the average share of deprivations ranges from about 45 percent (in Gabon, Lesotho and Swaziland) to 69 percent

> (in Niger). Yet half the world's multi-dimensionally poor live in South Asia (844 million people), and more than a quarter live in Africa (458 million). (UNDP, 2010: 8)

The latest Human Development Report (UNDP, 2010) defines South Africa as a 'Medium Human Development' country, using the MPI measures.

Of interest to this study is the fact that global poverty measures are increasingly also considering the environment, sustainability and the way in which countries are affected by issues such as HIV/AIDS. In the UNDP (2010) report a measure of sustainability is included and the point is made that human development that is not sustainable is not an adequate concept of development. The UNDP (2010) notes too that much more needs to be done to improve the way in which sustainability issues are accounted for and considered in human development reporting.

2.2.3 South African response to poverty and poverty alleviation

This section brings to the fore the different approaches utilized by South Africa to fight against poverty. The new government declared addressing poverty and deprivation as the first priorities of the South African government after the elections of 1994. A need to establish a sustainable programme to meet the objective of freedom and quality of life for all South Africans was identified. The Reconstruction and Development Programme (RDP) was established by the African National Congress (ANC). To address poverty the ANC decided to take the following actions: eliminate hunger, provide housing, water and sanitation, raise education and training for children and adults, protect the environment and improve health sciences. The ANC in agreement with the international perspective recommended the empowering of women and youth so that they can reach their potential, a point which is re-emphasized in the National Sustainable Development Framework produced in 2007 (RSA, 2007).

Programmes for training, education and job creation were recommended. (ANC, 1994: 16)

The second priority detailed in the Reconstruction and Development Programme was job creation through the Public Works Programme (PWP) and an integrated qualifications' framework was recommended as a response to enable learners to progress to higher levels of education from any starting point. It emphasized that job creation should cater for women, youth and the disabled. (ANC, 1994: 16)

In 1999, unemployment and resulting poverty were identified as the most significant threats to South Africa's new democracy. Approximately 40% of working-age people were unemployed, with a strong weighting amongst the youth. This situation, largely a legacy of apartheid policies, was further complicated by social and economic changes taking place at the time, by the country's exposure to the effects of the rapid globalization of capital that occurred simultaneously with the advent of democracy, and the fact that previous education practices had left most working people either under-skilled or unskilled. The most important socio-economic challenge that faced government in the wake of the second democratic election was therefore fourfold: to reduce unemployment; to alleviate poverty; to strengthen the general skills base; and to improve social services, as they inhibit and destabilize political freedom.

As the eradication of extreme poverty and hunger was identified as first goal to be addressed when the Millennium Development Goals (MDGs) were adopted at the United Nations in year 2000, in response to the MDGs the South African Government introduced integrated development programmes such as urban renewal, integrated rural development and Expanded Public Works (EPWP) as efforts to meet the Millennium Development Goals and its own poverty alleviation programme. As indicated in Chapter 1, the Expanded Public Works

Programme was seen as a tool to address poverty and unemployment and is discussed broadly in the coming paragraphs. (McCord, 2008)

2.2.4 The Expanded Public Works Programme

As indicated in Chapter 1, the Expanded Public Works Programme was initially conceptualized in 1994. It was supported by the Construction Industry Development Board. It commenced as the Community-based Public Works Programme (CBPWP) and was intended to provide rapid and visible relief for the poor, and to build the capacity of communities for development. It was allocated approximately R350 million per annum, and the programme resulted in the creation of around 130 000 work opportunities between 1998 and 2004. Initially it was responsible for allocating funds to Community Based Organisations to carry out projects, but after the democratic local government elections, the funds were channeled to municipalities. The focus of earlier programmes ranged from basic infrastructure development, such as roads, to income-generating projects, such as communal agricultural undertakings. It was later developed to incorporate public expenditure towards infrastructure using labour-intensive techniques. Though it failed to gain momentum then it managed to provide legislation on which to build the EPWP. (Department of Public Works, 2009:. 3)

The EPWP was announced by the then President Thabo Mbeki in his State of the Nation Address in 2003. It developed to be a nationwide programme covering all spheres of government and state owned enterprises which sought to draw significant numbers of unemployed into the productive sector. It supports them to gain skills while they work and increase their capacity to earn income. For improved management and coordination, this programme at inception was divided into four sectors as listed in Table 2.2.

Table 2.2. The sectors of the EPWP Phase1

Sector	Participating Departments	Lead Department
Environment & Culture	Department of Environmental Affairs and Tourism Department of Arts and Culture Department of Science and Technology Department of Agriculture Department of Water Affairs and Forestry	Department of Environmental Affairs and Tourism
Infrastructure	Department of Public Works Department of Transport Department of Local and provincial Government Department of Housing	Department of Public Works
Social Sector	Department of Social Development Department of Education Department of Health	Department of Social Development
Economic Sector	Department of Trade and Industry	Department of Trade and Industry

This programme is under the leadership of the Department of Public Works (DPW). Though it is hosted by the Department of Public Works, each department is paying for the substantial portion of the funds used in the programme from its Medium Term Expenditure Framework (MTEF). The departments concerned are reporting to the Department of Public Works and to Cabinet.

The approach to skills development and employment conditions within the EPWP Phase 1 were discussed in the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programme document of 1997 which was developed by NEDLAC (DOL, 1997). It proposed the following, that :

> *Training is regarded as a critical component of SPWP. Every SPWP must have a clear training programme in place that strives to:*
>
> > *Ensure programme managers are aware of their training responsibilities;*
> > *Ensure a minimum of 2 days training for every 22 days worked;*
> > *Ensure a minimum of the equivalent of 2% of the project budget is allocated to funding the training programme.*
> >
> > *This funding may be sourced from the project budget, the National Skills Fund or donors. It is recognised that training needs will be higher at the start of a project and tail off as projects become more established; ensure sustainable training through certification.*
> >
> > *It is proposed that minimum of 30% of the training provided should be accredited**;** Balance quality of life, functional and entrepreneurship training;*
> > *Balance formal training with structured work place learning;*
> > *Equip workers with skills that can be used to secure other employment opportunities;*
> > *Identify possible career paths available to workers exiting the SPWP. (A new Code of Good Practice document has been approved in October 2010 and has not been considered in this study as it was already in progress)*
> > (DOL, 1997: 1-25)

The above documentation resulted in diverse interpretations by the stakeholders. Some interpreted it as on the job training where workers learn skills from each other, while others interpreted it as skills as used in skills development. Some interpreted it as an opportunity to improve the education system so that the workforce is able to undertake skilled work opportunities associated with economic growth while others interpreted it as providing employment and skills resulting from experience gathered during employment.

Kraak & Press (2008) alluded to the fact that education and training in the Expanded Public Works programme is at entry levels between levels 1-3 in the NQF. The above interpretations led to critiques which are discussed in more detail below.

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2.2.5 Expectations raised by EPWP Phase 1 documentation

McCord (2008) asserts that the EPWP Phase 1 documentation raised the expectations of South Africans. It created expectations that skills and experience gained through programme participation will lead to improved labour market participation and the development of a skilled workforce. The assumption was that workers would move from the periphery to the core of the labour market. It created an assumption that there is correlation between improved skills and an improved labour market. Skills therefore, were viewed as a bridge between unemployment and employment. The EPWP promised to provide on the job training and training leading to the NQF qualifications which entailed learnerships and skills programmes as recommended in the Skills Development Act of 1998. The average employment duration however, was only 4 months and training was given for 2 days in every 22 days worked meaning that they were expected to do a learnership within 8 days of training which was impossible. The expectations were set too high for the reality of the programme and its structure (McCord, 2008, p. 555)

2.2.6 Critique of the Expanded Public Works Programme Phase 1

According to McCord (2008) there is conflict between the expectations raised by the EPWP and its implementation in practice. In the infrastructure sector only managers not beneficiaries were trained in construction learnerships as prescribed in the EPWP documents. Not only were more substantive training programmes impossible to implement given the short duration of the work contracts, but the focus of the training was also limited. Most of the EPWP

beneficiaries were trained in programmes offered and prescribed by the Department of Labour focusing on Life Skills and awareness of HIV/AIDS rather than skills that are in demand in the labour market. In addition, the content of the Life Skills programme was not well defined, which made assessment of its impact problematic. The skills which were provided by the Working for Water and the Working for Wetlands programmes were not in demand in the wider labour market as they were specific to the kinds of programmes being developed (which were not economically driven programmes) The consequence was that the EPWP improved lives of the people only through the income but not through skills development to improve their employment prospects. (McCord, 2008, pp. 555- 556)

McCord (2008), commenting further on these issues in the study of training in the Expanded Public Works Programme emphasized issues around the discourse in the documents, policy and the implementation of training. The findings and critiques of his study focus more on the policy and the implementation of the policy issues. As mentioned in Chapter 1, to date no one (to the best of my knowledge) has done research on *how the learners learn* in the EPWP projects, or whether there is any learning during the participation in the EPWP skills development programmes. That is why in this research emphasis will be on what and how learners learn in special relationship to an environmental skills programme in an EPWP programme. McCord (2008)'s emphasis was on the infrastructure, life skills and working for wetlands programmes. In this research I will focus on the environmental skills programmes.

Chisolm (2007) has also written on the origins, policies and the implementation of the NQF. As mentioned in Chapter 1, she critiques the NQF for having more impact on the discourse than on the practice of education and training policy intentions. Skills programmes and learnerships are examples of courses established by the NQF. She asserts that the NQF is just an assessment

framework not a provision framework and learners do not have prior skills and knowledge to make use of that assessment. (Chisolm, 2007: 303; see also Chapter 1) While this is an important point influencing learning (i.e. the prior knowledge of the learners) she uses this concept in more of a systems perspective. While commenting on prior skills to make use of the skills programmes and assessments, she does not comment on prior knowledge in relation to what learners learn in the EPWP programmes. Some of the training conducted in the EPWP is credit–bearing as recommended in the code of good practice. Learners in the EPWP programme were mostly unemployed before joining the EPWP programme and are therefore qualified mostly at the entry levels of the NQF. For this reason, most EPWP training programmes are at levels 1-3 on the NQF (ABET and post-primary school). This also explains why this research focuses on skills programmes at levels 1 and 2. It is of interest therefore to research what and how adult learners learn while working at the above levels of the NQF. As indicated by the research questions in Chapter 1, emphasis in this research is therefore on what and how workers who are learners in the EPWP learn.

2. 3 History of skills training in South Africa

In this section I present a brief profile of skills training in South Africa. This profile is given to provide turning points in history that will enhance the understanding of the current context**.** McGrath, Badroodien, Kraak and Unwin (2004) presented the history of skills development in South Africa from the early nineteen tens. They divide skills development in South Africa into three categories; namely, technical, vocational and industrial education. In their understanding a skill refers to different kinds of discipline and work preparedness that made people good citizens and good workers in South Africa. They explain how skills' training in South Africa was racialised within the colonial and apartheid systems. Before 1910 technical education and vocational education were regarded as suitable mainly for Blacks and Coloured

racial groups within a deficit concept of humanity promoted by the colonial and apartheid governments. “They had always been associated with issues related to indigence, social and educational inferiority, and mental backwardness.” (ibid: 48) After 1910 the provision of technical education was for whites only while vocational education namely bricklaying, plastering, painting was provided for primarily for Coloureds. The type of vocational training Blacks and Coloureds were involved in depended on their environments. Blacks in the rural areas were mostly trained in agriculture with the aim of preventing them from moving to urban areas (except to work in the mines) while the coloureds in cities were trained in city related vocational training. (Malherbe, 1977: 163; McGrath, Badroodien, Kraak & Unwin, 2004: 49)

In the late 1970s and early 1980s three investigations and enquiries were conducted into labour and training in the workplaces. The investigations led to the establishment of the Manpower Training Act of 1981. The Wiehahn Commission of 1977 was appointed to investigate labour and training legislation. It was discovered that the industrial training system had a legislative structure that was not synergistic, and different aspects of the legislation was administered by different departments. There were many overlaps, gaps, and a lack of standardization and coordination.(Wiehahn,1977: 231)

Much like today, it was discovered that artisan training was unable to meet the requirements of the time. It took a number of years for one to qualify. It demanded an on the job training which was often unsupervised and unstructured. There was an inadequacy of facilities during apprenticeship. Some employers were fixed on specific tasks which deprived artisans in training from developing a wider range of skills. Qualifications were highly fragmented with problems of certification, multiplicity of certifying bodies, racial segregation and lack of articulation or links between the formal education system and the training system. (Kraak, 2004: 49)

To remedy the problems of apprenticeships and artisan training, the National Training Board and the Human Resource Council advocated for education and training to be institutionally–based, and both structured and monitored. This was to allow for broadening of skills to include cognitive elements. Despite this, the problems of uncoordinated industrial training persisted as organizations tend to only train people to meet their own needs. Others were not willing to invest in training, but bought trained workers from other organizations by offering them better salaries and bigger packages. (Kraak, 2004: 50)

The inadequacies of the training system noted above, eventually led to the establishment of a National Qualifications Framework. The NQF is based on principles of equity, access, portability, redress and was intended to enable access to those previously denied adequate learning paths. It was meant to include a significant programme on Recognition of Prior Learning, and to facilitate worker training and learning. Kraak & Press (2008) divides the NQF into three skills' bands namely, entry level skills (pre-matriculation) intermediate skills (post matriculation) and higher skills (higher-education degrees). Kraak & Press (2008) says that entry level skills have been substituted by levels 1-3 in the NQF which is catered for by General Education and Training (for which a Grade 9 certificate is equivalent to a level 1 on the NQF) and the Expanded Public Works Programme amongst other programmes that offer training at levels 1-3. Further Education and training (FET) colleges have been established to cater for intermediate skills which include artisans, operatives, and technicians. These qualifications are offered at levels 2-4 on the NQF (Kraak, & Press (2008): V- V1). There has, however, been a general neglect of FET Colleges in South Africa over the past 14 years, an issue which the newly established Department of Higher Education and Training plans to address (Department of Higher Education & Training: 2010).

The inadequacies discussed in the paragraphs above influenced the changes in education and training in South Africa. They gave birth to an approach to education which tried to address all the problems identified in the system. According to Chisholm (2007) a consensus was built between Trade Unions, Business and the African National Congress and they adopted the National Qualifications Framework which was developed as a central policy in the context of training markets in the United Kingdom, Canada, Scotland, New Zealand and Australia. In South Africa it was introduced through the South African Qualifications Act (SAQA) Act of 1995 (recently revised to split the system into three quality councils, RSA, 2009) and the Skills Development Act of 1998. The aim of the NQF was to address inequalities in learning across the different racial groups and to address unemployment through regulating the labour market and process of skills acquisition through transformation. (Chisolm, 2007: 295) This has proven to be an ambitious project and the NQF has recently been restructured to make implementation more feasible (RSA, 2009). A new National Skills Development Strategy (NSDSIII) is being defined, and the separation between the Department of Labour and the Department of Education in the skills development landscape has recently been addressed through a new Ministry of Higher Education and Training which aims to bring the systems of learning closer together (Department of Higher Education and Training, 2010).

A key legislative Act defined in 1998 is the Skills Development Act which requires all companies with employees of over 50 to pay a one percent levy to fund skills development. This effectively brought a stronger focus on skills development into workplaces, and also led to the establishment of the SETA system. The main purpose of the Skills Development Act is to:

- Develop the skills of the South African Workers,
- Improve the life of workers,
- Improve productivity in the workplace,

- Encourage the workers to use the workforce as an active learning environment.
- Assist the unemployed to enter the world of work (DOL,1998: 4)

Through the NQF and the Skills Development Act, South African government realized the importance of workplace learning with an aim of improving the employment prospects of persons previously disadvantaged by unfair discrimination and sought to ensure quality of education and training in the workplaces through the SETA system, which is responsible for quality assurance of all workplace training programmes and learnerships, including those offered by the EPWP. To ensure quality, portability, and access, the Department of Labour recommended that workers need to participate in training through learnerships and skills programmes whose meanings are discussed below. (DOL, 1998: 4)

2.3.1 What is a learnership and skills programme?

A learnership is a structured learning programme that includes practical work of a specified nature which is supported by theory. A learnership is to lead to a qualification on the NQF and is linked to an occupation which needs to be registered with the Department of Labour. A learnership must consist of more than one unit standard and must have 120 or more credits (one credit = one notional hour). A learnership is not a qualification. It leads to a qualification – an NQF registered qualification. Skills programmes, on the other hand, are learning programmes that are made up of a collection of unit standards that will enable a learner to develop a specific skill. Completing of a series of Skills Programmes could lead to a national qualification. (DoL, 1998:12- 14) This type of training is the training that is recommended in the code of good practice for the EPWP. It is recommended that 30% of the training should be accredited meaning that it should be in the form of skills programmes or learnerships and should be provided by accredited providers. However, skills programmes and learnerships can be technically interpreted and understood if

adequate attention is not given to the concept of learning, which I discuss in more detail below

2.4 What is learning?

> Make learning more significant than teaching – and writing, design and formatting skills as important as lecturing techniques (Jarvis, 2001: 27)

In this section I discuss the meanings of learning, environmental learning and workplace learning as they form the main focus of this study, as briefly discussed in Chapter 1. In particular, I examine theories of social learning and situated learning in relation to this study. In the EPWP programme what comes first is availability of funding, which is given to a community to create a project. Members of the community who are unemployed are recruited to work in the project. While they are working in project a training intervention is organized for them so that they may benefit from acquiring a skill. The training interventions are guided by two principles, which are to increase productivity in the project and to assist workers to be more employable when the project has come to an end. It entails issues of teaching and learning, and learning while working.

Sarason (2004: 22) defines "learning as a process that occurs in an interpersonal and group context, which is always composed of an interaction of factors to which we append labels such as motivation, cognition, emotion and attitude". He traces his understanding of learning from Robert Thorndike and John Dewey traditions. According to Thorndike's theory of learning as cited by Sarason (2004) learning emphasizes that human behaviour determines ones' pedagogical practice while Dewey's focuses on experience of learning in contexts. Sarason (2004: 22) emphasizes that learning "runs through one's lifespan from birth to adulthood as a result of interactions with other people and the world". That clarifies that learning has no age limit, and that the adults within an EPWP can also learn from each other and from the world.

As cited by Smith (2003) and Wenger (1998), institutions of learning tend to perceive learning as an individual process where learners work as individuals. In their view learning has a beginning and an end and is always seen as a result of teaching. According to this view collaboration among learners is interpreted as cheating. Wenger (1998) regards this view as leaving out a lot of other perspectives influencing learning; for example, learning in the context of experiences in the world, learning as part of human nature, learning in the workplace and learning reflecting on our own social nature (Wenger, 1998: 4).

Saljo (1979) conducted research where she asked a number of people about what they understood by the concept of learning. The research resulted in 5 answers which I summarise here as two key points related to learning, namely 1) learning as acquiring information by memorizing and storing information, and 2) learning as understanding and making meaning of the world (Saljo, 1979: no pages). The Oxford American Dictionary cited by Glasser (2007: 46) defines "learning as the process of acquiring knowledge, skills, norms, values, understanding through experience, imitation, observation, modeling, studying, by being taught or as a result of collaboration".

According to Engeström (2001) any theory of learning needs to answer 4 questions:

- Who are the subjects of learning, how are they defined and located?
- Why do they learn, what makes them take the effort to learn?
- What do they learn, what are the contents and outcomes of their learning?
- How do they learn, what are the processes and actions of learning? (Engeström, 2001:133)

As mentioned in Chapter 1, this study is investigating what and how EPWP beneficiaries learn. Engeström's questions will be used in this study, but emphasis will not be on ordinary learning but on environmental learning. There is a difference between learning and environmental learning. Environmental learning is discussed below and is described as learning using environmental aspects.

2.4.1 Participation in environmental learning

The programme researched is funded by the Department of Environmental Affairs and therefore focuses on environmental learning. The course deals with conservation issues. Wals (2007) Scott and Gough (2008) indicate that environmental learning is the learning and participation that accrues from the study of the environment and environment ideas. It can be formal or informal or take place in a school or community. The groups implementing it vary according to how they deal with the environment content and what is common amongst them is that they use the environment as the stimulus of learning. (Wals, 2007: 42; Scott & Gough, 2008: 82)

Rickinson, Lundholm and Hopwood (2009) say that environmental learning has varied academic meanings and vernacular interpretations. It can refer to learning through outdoor environments, environmental cognition as well as broad conceptualization of learning that occurs when learners engage with content that pertains to the environment or environmental issues. In environmental education and learning, participation is enshrined as the objective of learning. It is mentioned in most of the documents which are the foundations of the field for example the Belgrade Charter (1976) the Tiblisi Declaration (1978) and Chapter 36 of Agenda 21 (Glasser, 2007)
Scott and Gough (2003) articulate that there are nine categories of different focus areas identified by the people who promote environmental learning. They include nature, conservation, social change, feelings and values,

understanding skills, behaviours, social justice and democratic citizenship. Rickinson (2008) who undertook a full review of evidence-based research on learning in environmental education research, argues that environmental learning has been under- researched and under-theorized in the field of environmental education and its emphasis has been on what the teachers teach and learning outcomes and very little has been done on learning processes, learners' experiences, learning theories and learners' responses to environmental programmes. As mentioned in Chapter 1, this is why the emphasis of this research is on what learners learn and how they learn in environmental skills programmes. It is trying to address the lack in this field as identified by Rickinson in his writings.

Lundholm (2004) conducted research in students' interpretation of course content and learning in environmental education with the intention of exploring students' meanings as well as elaborating learning theories. She analyzed the students' contexts. By contexts she is not referring to a place or situation but to a description of a mental cognitive framing of concepts or phenomena they have. To her contextualization describes how learners describe, interpret and analyse the tasks given to them in the classroom situations. When students' contextualization refers to norms and values in society the context is described as cultural. The way in which these different types of contexts influence environmental learning will be observed in this research.

Ballantyne and Parker (2005) have used the contextual model of learning in their research on how sustainable attitudes are promoted through free-choice learning. They describe the contextual model of learning as a widely accepted construct for investigating and understanding learning. They believe that learning is constructed over time and is a process and product of the interactions between three overlapping contexts namely personal, socio-cultural and the physical. They view learning as an active process of meaning

making that emerges as individuals interact with phenomena and cultural knowledge in a social context. The interaction of the learners with these contexts will be observed in this research as well as their ways of making meaning as the processes of the programme unfold.

Scott and Gough (2003) propose three strategies through which environmental learning can be facilitated; namely, through one way transmission (instruction of learners), two way exchanges (communication) and through multiple way exchanges (mediation). Rickinson (2008) suggests that consideration should be given to actual processes and contexts in which learning takes place while Pollard cited by Reid et al. (2008) argue that analysis of learners and learning need to be both life-wide and life–long. Taking the above contexts into consideration the following shall therefore be observed in this research: Activities taking place to encourage / stimulate learning, learning cultures (what assumptions and taken for granted actions or assumptions shape the way learning takes place), social interactions in the learning process (between trainers and workers, workers and workers, workers, trainers and employers, and workers, trainers and texts. This brings the question of participation in workplace learning into focus.

2.4.2 Participation in workplace learning

Billet (2004) in his paper indicates that workplace learning highlights or underscores participatory practices. He emphasizes that participation and learning in workplaces are inseparable phenomena (Billet, 2004:315). What is common in all these different perspectives of learning and participation is that there are activities, interactions, interrelationships and practices which lead to changes amongst the people. Smith (2003) argues, in a similar vein, that "there is no learning without participation and learning is a deepening process which comes largely from our experiences in our daily lives, with each other and with the world around us" (Smith, 2003:no pages). Participation in learning

has been further developed and is made more explicit through theories of social and situated learning, which I discuss next.

2.5 KEY EDUCATIONAL IDEAS THAT HELP TO EXPLAIN PARTICIPATION IN LEARNING IN WORKPLACES

2.5.1 Social learning

The processes above are also discussed in the context of social learning as discussed by Wals (2007). Wals (2007) and Glasser (2007) concur that social learning has diverse meanings and is used in different contexts. According to Wals (2007: 39), social learning refers to "learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to meaningful interaction" (Wals, 2007: 39). It occurs at levels of individuals, groups, organizations, networks, actors and stakeholders. According to Glasser (2007: 47) social learning engages and employs processes of learning like observation, imitation, modeling, self instruction, conversation and mentoring and all these strategies entail interaction with living beings.

Glasser (2007) explains further that social learning may be passive or active. It is passive when individuals draw their knowledge from newspapers and media and not from questions and interactions with other people or audiences. It is active when it is based on social interactions and communications with living beings in contexts (Glasser, 2007: 51) This view is supported by Wals (2007) who argues that social learning does not take place in a vacuum but in rich social contexts and in social systems which entail the following intertwined threads namely "reflection, systems orientation, integration negotiation and participation" (Wals, 2007, p.39) A reflective society consists of people who are able to question routines, norms, values and interests and who are able to participate and contribute in a process of change. The following skills are also

utilized and sharpened; namely, listening, being attentive to one's own and other people's responses, being able to pool perceptions together, flag assumptions and perceptions of participants, and engage in open and transparent discussions and dialogues to bring what is implicated out into the open (Wals, 2007:.39).

According to Smith (2003) who cites Lave and Wenger (1991) social learning comes largely from our experiences of participating in daily life. Lave and Wenger call such learning 'situated learning' which involves engagement with communities of practice. In my view I see social and situated learning as related because they use the same examples of activities people engage with, and in situated learning such learning is seen to take place amongst communities of practice. Such communities of practice exist in workplaces, in homes, in formal institutions and in local communities. Situated learning theorists emphasize the fact that it is through activities that people interact with each other, and with the world, and through this learning or opportunities for learning emerges. Such learning encounters may be formal or informal (Smith, 2003: no pages)

In addition to that Wals (2007) further raised critical issues which promote and support learning in a social context, particularly when sustainability issues are being dealt with. He says that in social learning there are conflicts, and these should not be ignored for learning to take place. They should rather be "explicated" than "concealed" meaning that they should be well defined and not be hidden. In social learning for sustainability there is often "dissonance" as sustainability issues are complex and are often contested. He confirms that without dissonance there is no learning but also notes that dissonance should not be too much in a social setting, as learning ceases to exist when there is too much dissonance. There should be "frame awareness" which means that every participant's idea or opinion should be known or should come to the fore (ibid: 40).

Bernstein cited by Moore (2004) is also concerned about the influence of frames in learning. He mentions the fact that knowledge is categorized into strong classifications, weak classifications and that such knowledge structuring frames learning. Strong classifications refer to scenarios where knowledge domains are kept separate from each other; where certain people see themselves as knowing certain things while others do not. A weak classification is a scenario where knowledge forms intersect and melt into each other. He describes the frame as the determination of who controls the access to information (Moore, 2004:.330). According to Wals (2007) all these kinds of differentiations should be 'de-framed' and deconstructed, so that different perspectives can become more visible, so that those in the situation can share information or make different views open to scrutiny. Through this process, people in a learning situation become aware of each other's frames; with critical analysis even hidden frames can become more visible and open to scrutiny. Wals (2007) states that such deframing is necessary for the process of "construct[ing] new frames together". He calls that process to co-create (Wals, 2007: 40-41). In this research I shall use the social learning theories as discussed above as lenses for interpreting learning processes in the EPWP learning contexts.

2.5.2 Workplace learning

Workplace learning is often unrecognized for what it is because people do not think of their job as learning. This is because what they learn is their practice. Learning is not reified as an extraneous goal or as a specified category of activity or membership. Their practice is not a context for learning something

else. Engagement in practice is the stage and the object, the road and the destination (Wenger, 1998: 95; Lee & Roth, 2005: 244).

According to Engeström (2007:336) workplace learning has emerged as “an extension of educational research stepping beyond the confines of the institutions of learning”. Its main focus is on improvement of the conditions of work practices and instruction. It is sometimes confused with organizational learning. Organizational learning emerged from the field of management studies with an aim to find explanations for success and failure in organizations and is not workplace learning but there are commonalities between them (Engeström, 2007:336).

Bottrup (2006) perceives workplace learning as learning that takes place when one performs normal, routine tasks in daily work i.e learning in daily work situations. He considers workplace learning as practice-oriented, concrete, specific, informal and easy to adopt. When we look on the activities of EPWP this view of workplace learning represents on the job learning or training. Malcom (2003 cited by Bottrup 2006) challenges the above definition and says that learning should combine elements from both school-based learning and workplace learning which in my view are theory and practice or content and context (Bottrup, 2006:343- 344). This view in the context of the EPWP is represented by skills programme and learnership as they combine on the job learning with school-based learning (see Section 2.3.1 above).

O’Connor (2004) argues that workplace learning has an “image problem and is perceived as a support profession and an expense rather than a capital investment” (pg. 341). This is despite the fact that training in the workplace is important and needs to be given the status it deserves. He argues that the workplace learning cycle “needs to include context and content as they complement each other” (O’Connor, 2004:341).

2.5.2.1 Aims and objectives of workplace learning

According to Grey cited by Billet (2004) the aim of workplace learning is "to regulate participants to maintain the continuity of workplace activities" (Billet, 2004, p.312). Collins (2006) maintains that the aims and objectives of workplace learning are different for different people. He states that:

> To employers it contributes to the employees' development of the vocational and professional knowledge needed for work. To companies and organizations, when linked to their specific needs it leads to better productivity and increased competitiveness. To individual workers learning in the workplace, leads to personal fulfillment, joy, progress in one's career and strengthens their sense of self and identity. To government its goals focus on making the content of vocational education programs relevant to industry. To teachers in vocational institutions, it assists their students to transfer classroom experiences to non-formal situations (Collin, 2006:404).

As indicated in the discussion above, the aims of workplace learning in the EPWP are essentially to increase productivity and workers' abilities to become more employable in the labour market.

2.5.2.2 Critiques of workplace learning

Billet (2001), Engeström (2001) and Gerber (1995, cited by Collin 2006) present critiques of the workplace learning discourse. They state that work place learning is not systematic, it is senseless, not well conceptualized and lacks comprehensive theorization. Critiques describe workplace learning as informal, unstructured, incidental and practice bound. Workplace learning does not have qualified teachers and classroom-like interactions and has no written curriculum used to plan teachers' actions. The fact that it has no qualified teachers makes it look inferior to the type of learning that takes place in institutions of learning (Collin, 2006:404).

Moore (2004) does not concur with the critiques of the discourse of workplace learning. He maintains that such critiques are framed by institution of learning lenses to explain workplace learning. He says that the curriculum in the workplace is not merely information written in training manuals that people need to know but is about identifying the dynamic processes by which members define, organize, and use various forms of knowledge. This knowledge emerges, evolves and changes over the course of its use. He recommends that for curriculum analysts to understand it they must track its transformation as it unfolds (Moore, 2004: 329).

Be that as it may O'Connor (2004) supports the need for workplace trainers to be certified or hold professional licensures. He argues that the licencing or accreditation of trainers is appropriate to ensure that the public is protected from incompetent practitioners, to enhance the prestige of the profession and as a means to compare job applicants. McLagan (1989, cited by O'Connor 2004) identified the roles and competencies needed by licensed training practitioners. He said that training practitioners for the workplace should be researchers, marketers, organizational change agents, needs analysts, programme designers, career advisors, materials developers, facilitators, administrators and evaluators (O'Connor, 2004: 342).

Moore (2004) calls the workplace learning curriculum "a situated, contextualized curriculum" which has emerged as a result of encounters of workers in the workplace. He identified the following as the features of a workplace curriculum:-

- A technical part which entails use of technology in the workplace (equipment used in the workplace)
- A social part which contains the way the participants interpret their behaviour as well as the behaviours of others and their interactions.

- A pragmatic part which consists of how the participants get to understand the tasks in relation to the larger content of the workplace and the organization. Some tasks are central to the operation of the organization while others are peripheral.
- Classifications- He mentions that in a workplace there is knowledge which is strongly classified, and knowledge that is weakly classified. In workplaces these classifications are organized around job functions, and not around academic disciplines like in institutions of learning. (Moore, 2004:330-331)

According to Collin (2006) workplace learning contains the following characteristics:-

- Workplace learning is based primarily on experience which involves making sense of the situations participants meet in their daily lives. It is embedded in everyday problem-solving situations, learning through mistakes, interactive negotiations with colleagues and making of practical decisions. The working context determines the possibilities to learn and competence cannot be separated from the context.
- Most workplace learning is accomplished through participation in relationships the cultural and social relations of the workplace and the experience of the social world of the participants. Learning is sharing. Concrete forms of learning take place within the asking for and giving of advice, everyday talk and in face to face interactions with colleagues (Collin, 2006:404-406).

Lee and Roth (2005) conducted research in a workplace where the workers had expressed dissatisfaction regarding the mundane and routine quality of their work. He studied the activities they were involved in in fish culture in a salmon hatchery. The fish culturalists were feeding the fishes six times everyday. Out of that routine a number of learning activities emerged.

- Learned how to feed the fish
- Learned the behaviours of fishes in different weather conditions
- Learned how they responded to those conditions
- Learned the responses of unfed fishes/ hungry fishes to diseases.
- They performed experiments, tried and changed activities to understand fish culture.

The practice assisted the workers to perform their work better, to understand their work, to change their routines and they transformed themselves, the culture of the organization and the practice. Lee and Roth's (2005) study confirmed that learning is unavoidable even in repetitive chores as they realized in their observations that every enactment of the task is non-identical to other occasions of doing the task. They suggest that change does not only exist in praxis (practice in the workplace) but is co-extensive. Billet (2004) concurs with Lee and Roth (2005) by expressing the fact that engaging in familiar practices reinforces and refines procedures and what is already known.

2.6 RELATION OF THE LITERATURE TO THIS RESEARCH

As mentioned previously, the intention of this research is to investigate what and how workers learn in a skills programme. The focus is the learning in a General Field Assistant NQF 2 skills programme, offered by two training providers to workers in two projects in the DEA funded EPWP projects (see Section 1.5). The skills programmes consist of the formal learning part and the workplace part of the training as recommended by Malcom (cited by Bottrup, 2006).The two providers offer the same skills programme but in different projects which means that the skills programmes take place in different

contexts. They are accredited by the THETA and have been doing training in the field for a number of years. They have well established learning academies and have developed their own materials (see Section 1.4).

The different contexts mean that there is a need to take the situatedness of the learning into account, hence this study will draw on theories of situated learning as described above. Context is a key differentiating feature of situated learning. According to Cornbleth (1990) there are two meanings of context. For the first meaning context is defined as the whole situation, background, and environment relevant to that particular event. This understanding is traced from Dewey (cited by Sarason, 2004) who says that discussion of an event outside its context is an illusion. Cornbleth (1990) comments that there is no boundary between the event/object and its context. As such I have made the observation of learning in different contexts a focus of the study (see Section 1.6 and Section 3.2), and through this, I will observe how context influences the learning interactions which will hopefully provide insight into the situatedness of learning in the EPWP programme.

As indicated in the discussions above, in literature reviewed for this study, two understandings of workplace learning have been identified. Some researchers see workplace learning as the result of the interactions and activities in the workplace only, while others' interpretation maintains that it must include both workplace and classroom-based learning. In addition they recommend that individuality and participation of the learner, learners' educational work and life experiences and understanding of the content and the context in which learning occurs needs to be taken into consideration. I will work with the latter view of workplace learning in this study. Lee and Roth (2005) in their paper indicated that for a learner to be competent in the workplace he or she must have prior knowledge of the field, be involved in praxis, be involved in theoretical analysis through discussions and participate in a community of practice. In the Department of Environment Affairs EPWP projects, learners are

recruited from the communities, and do not have prior knowledge of the workplaces they are participating in. The assumption is therefore that participation in environmental skills programme training will equip them with the basic knowledge which they can put into practice in the workplaces. As mentioned in Chapter 1, and in the discussion on the EPWP programme above, this is all meant to take place in a very short training period (2 days for every 22 days worked, with few contracts extending beyond four months).

2.7 **CONCLUSION**

This chapter has provided the theoretical and contextual background to the research topic and focus. The chapter started with a more detailed discussion on poverty and measures put in place to address poverty in South Africa, particularly through the EPWP programme and its training assumptions. To provide further background and context to these assumptions, the chapter also reviewed the history of skills development in South Africa, indicating why it is that the EPWP programme uses accredited skills programmes as its main mechanism for implementing training in the EPWP programmes. This training uses both classroom based training interventions, and learning in workplaces, hence this chapter further probed workplace learning and associated learning theory (i.e. social and situated learning) in more detail, also drawing attention to how environmental learning and learning with a focus on sustainability differs slightly from other theories of learning. Drawing on these perspectives it was possible for me to further clarify dimensions of what one might seek to observe in workplace learning observations. The next chapter provides further detail on the methodology and methods used to undertake the workplace learning observations and research in this study.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the research design, and the research processes and activities that have been utilized to collect and analyse the data for this research. As indicated in Chapters 1 and 2, my interest in this research is to develop in-depth insight into what the workers learn and how they learn in selected EPWP environmental training interventions. I begin the chapter by discussing the EPWP Programme context (already discussed in Chapters 1 and 2), but here I consider how this context influenced the design of this research project. I then go on to describe the research methodology selected, and the associated methods. I also provide an overview of how the data was analysed using categories that emerged from the data. I also describe how I used analytic memo's to reduce the data and to understand what was happening in the learning situations that I observed. I also discuss how I dealt with ethics issues, and validity concerns.

3.2 INFLUENCE OF THE EPWP PROGRAMME ON THE STUDY DESIGN

As indicated in Chapters 1 and 2, the EPWP Phase 1 provided for the facilitation of job creation, skills development and work experience which was meant to enhance the ability of the workers to earn a living in the future. However, as noted in Chapter 2 (see Section 2.2.5 and 2.2.6), concerns were raised about the actual impact of the programme in decreasing unemployment and poverty. Another concern raised was the short duration of the work opportunities. (Department of Public Works, 2009).

To improve the efficacy of the programme, EPWP Phase 1 was reviewed, and a Phase 2 of the EPWP has been established and approved. The goal of EPWP Phase 2 is to optimize the creation of work opportunities for the poor. One of the recommendations for Phase 2 of the EPWP programme is to improve the efficacy of the training programmes to enhance service delivery and beneficiary well-being. (Department of Public Works; 2009)

In response to this, the Department of Environmental Affairs developed a training policy to guide its training activities. According to the training policy of the department skills development of workers in the projects should be guided by the following:

- Training interventions must be relevant or aligned to DEA's mandate and functions,
- Training must also be applicable to the project implementation objectives, meaning that it must be relevant to the project implemented to enhance productivity and efficiency of workers in the project.
- Training should also be aligned to the training fields that support the function of DEA. Only selected and qualifying workers will be provided with accredited training. The extent is determined by the availability of funding.
- Training readiness of workers and their levels of education must be determined before appropriate courses are recommended. This means that proper skills analysis of the workers need to be conducted prior to the commissioning of training (DEA; 2009).

These issues influenced the selection of the programme that I chose to examine in this study. I chose a training programme that was aligned with the DEA mandate, that was aimed at improving productivity skills of workers, and a training programme that was appropriately constituted in terms of

accreditation requirements, and one that had done a training needs analysis prior to the training.

Based on the above, I initially selected one skills programme, the General Field Assistant NQF 2 programme, offered by 2 training providers in two projects in the DEA funded EPWP projects. . The two training providers offer the same skills programme; but they offered the course in different projects / different contexts. They are accredited by the THETA and have been doing training in the field for a number of years. They have well established learning academies and have developed their own materials. These providers are listed in the panel of providers for the department. Through the use of departmental procurement procedures they compete to win tenders for offering the training for each skills programme recommended in the EPWP projects. The tender to offer the above course was won by one of the two providers and at the time that the research was conducted, the other training provider had not yet been successful in winning a tender to conduct the training. Consequently, although I initially intended to examine what and how workers learn in EPWP projects through the work of two training providers, I had to adjust the study design to focus on the activities of one provider that was able to obtain a tender which correlated with the research timing.

Initially this concerned me as I thought it would change the results of the study, but after generating data in the one case study context, I realised that I had adequate data for a half thesis research project, and consequently I focussed on one case study only. My reasoning was also that once I had explored one case in depth, it would be possible to use what I had learned from the methodology of this case, and apply it more widely to other EPWP training programme contexts in future, but this would fall outside of the scope of this study, and could be integrated into further monitoring in the context of my daily work, or could also form the subject of a more expanded research project (see Chapter 5 for recommendations in this regard).

3.3 RESEARCH METHODOLOGY

3.3.1 Orientation and methodology

As indicated above and earlier in Chapters 1 and 2, I was interested in probing what learners learn in an EPWP training programme, and how they learn. Finding such information requires an in-depth analysis of the learning processes and the content of learning and requires a research design that allows for in-depth detailed analysis of a case. Thus, I used qualitative research techniques within an interpretive orientation to case study analysis. According to Janse van Rensburg (2001), researchers using interpretive methodologies are interested in the meanings that people make of phenomena. In this study I investigated the meaning workers were making from the learning opportunities in the environmental skills programme. Terre Blanche and Kelly (1999: 123) state that:

> Researchers working in this tradition assume that people's subjective experiences are real and should be taken seriously (ontology), that we can understand others' experiences by interacting with them and listening to what they tell us (epistemology), and that qualitative research techniques are best suited to this task (methodology) …. Interpretive research ….relies on first hand accounts, tries to describe what it sees in rich detail and presents its 'findings' in engaging … language.

As indicated above, I selected one case of environmental training in the EPWP to examine in depth. For this I used the case study method, focusing only on one selected skills programme. A dictionary of social terms cited by Roberts (1996), Cohen and Manion and Morrison (2004) defines the case study as a method of studying social phenomenon through analysis of individual cases. The case may be a person, a group, an episode, a process, a community or any unit of a social life whose characteristics are observed over time. Roberts (1996), Yin (1984) and Bromley (1986) state that case studies do not have

their own particular techniques of investigation. They draw on a whole range of research techniques used in educational research for example observations, interviews, document analysis and others. The case in this research is training in the general field assistant skills programme in a project. Terre Blance and Kelly (1999: 256) note that case studies have the benefit of providing in-depth insight into one particular situation, but they also have their limitations which include potential problems with the validity of the information (hence triangulation of sources is needed, see Section 3.5 below); causal links are difficult to test; and generalisations cannot be made from single cases. They do say, however, that case studies are useful for generating hypotheses and methodologies that can lead to further research (see Chapter 5 for recommendations of this nature emerging from this single case study).

Brief description of the case

As indicated in Section 3.2 above, I selected one skills training programme offered by one training provider at NQF level 2. Learners involved in this cases study were expected to learn how to carry out conservation maintenance practices within a designated conservation area, combat soil erosion and alien invader plants and perform a liaison function with neighboring communities. The liaison function entails awareness raising about important environmental issues as well as legal and illegal issues that can and cannot be carried out in a conservation area. It serves as an entry level skills programme to the conservation sector. This description of the learning that was assumed to take place (as defined in the unit standards) helped me to 'bind' the case further. I was able to use this to see what the learners were learning, how they were learning and what they were meant to be learning. Thus, not only was the case site bound, and provider bound, but I was also able to draw some boundaries associated with the skills programme's expected learning outcomes. This helped me to create a feasible unit of analysis for this study.

There were 13 learners involved in the skills training programme that I examined. They included 10 females and 3 males. 5 of the learners had passed Grade 12; 3 had attempted to complete Grade 12; and 5 of the learners had completed schooling at either Grade 10 or Grade 11 level. There were 2 trainers involved in the case study. They were experienced, and had run training programmes of this nature before.

The training programme case study focused on the following three unit standards:

Table : 3.1 Unit standards observed in the case study

NO	SAQA ID	UNIT STANDARD TITLE	Credits
1	8416	Understand and apply personal values and ethics	4
2	8331	Combat Soil erosion	3
3	8330	Combat problem plants	3

3.3.2 Data Collection Techniques

As indicated above, and in consistency with the case study and interpretive research design, I used primarily qualitative data generation techniques. These included:

- Document analysis
- Semi- structured interviews
- Focus group interviews and
- Observation of teaching and learning activities during training.

I discuss how each of these was used in more detail below:

3.3.2.1 Document analysis

Document analysis involves the collection of documentary sources which provide data for analysis. It helps researchers to reach inaccessible persons or subjects, and it provides information that was produced in the past about a particular programme, providing historical perspectives and rich information that could not be as easily generated in the present (Cohen and Manion, 2004). In this study document analysis involved collection and the review of the following documents:

- Skills development policies,
- Documents explaining the origins, policies and outcomes of the Expanded Public Works Programme Phase 1,
- EPWP Phase 2 planning documents,
- DEA training policies,
- The providers' learning support materials

The documents had different values in the research process, providing different types of insights contributing to the research question (see Table 3.2 below). For example, the policy documents assisted me to understand the purpose of the training as depicted by the government legislative framework, and included policies of the Department of Environmental Affairs and the Expanded Public Works Programme hosted by the Department of Public Works. The analysis of the provider's learning support materials gave me insight to what is taught and how legislation and unit standards are put into practice and consequently how policies and intentions are recontextualised.

A full list of all the documents I reviewed is included below in Table 3.2 (with codes that I assigned to the documents to make access to them and retrieval of information easier, and to ensure a clear referencing system for use of documented information in the study):

Table 3.2 List of documents analysed in this study, with brief description of the type of data obtained from the different documents

Name of the document	What the document provided	Index code
Reconstruction and Development Programme Document (ANC, 1994)	The aims of government after 1994 Purpose of Training	D1
Skills Development Act of 1998 (RSA, 1998)	Purpose of training Skills development in South Africa	D2
State of the Nation Address February 2003	Announcement of the Expanded Public Works Programme.	D3
Code of Good Practice (DoL	Purpose and how training should be conducted within the EPWP	D4
EPWP Training Strategy,Phase 2 (DPW,2008)	New approach to EPWP training within the EPWP	D5
EPWP Training Policy(DEA, 2009)	Approaches to EPWP training in the Department of Environmental Affairs	D6
Learning Support Materials for the Provider providing training	What is learned in the courses	D7
Unit Standards as given in Table: 3.1	Give details of the unit standards analysed and what needs to be learned	D8

I carefully read and reviewed each document, and extracted all of the information relevant to training. I captured this in an Analytic Memo (see Appendix 2) summarizing what all the documents had to say about training, and what and how learners should learn on the EPWP.

3.3.2.2 Observations

Observation is a research technique that is important in case study research. However, as Patton (2002:260) observes “The fact that a person is equipped with functioning senses does not make that person a skilled observer”. . He recommends that skilled observation includes:

- Paying attention to what there is to see, and hearing what there is to hear;

- Detailed written descriptions of what is going on often captured in the form of field notes;
- Use of methods to triangulate observations;
- Being reflexive of the strengths and limitations of one's own perspective, this requires both self knowledge and self disclosure or reflexivity.

He goes on to explain that careful preparation is important for observation work, and that the researcher should use tools that allow for systematic observation. To address these points I used an observation schedule (see Appendix 3) to help me produce systematic, detailed observations of what was happening. I also recorded the observations using a tape recorder, and I took photographs. I also took detailed field notes.

Cohen and Manion (2004) note that observation involves a researcher watching carefully while things are happening. The researcher observes the characteristics of that process or individual with a purpose to probe deeply and intensively into that particular phenomenon (Cohen and Manion, 2004). Because the phenomenon that I was interested in was the learning processes, I observed:

- Activities taking place to encourage / stimulate learning
- Learning cultures (what assumptions and taken for granted actions or assumptions shape the way learning takes place)
- Social interactions in the learning process (between trainers and workers, workers and workers, workers, trainers and employers, and workers, trainers and texts).

To conduct the observations, I had to travel to where the training programme was being offered. This was in a nature reserve in the rural areas of the Eastern Cape not far from the border with Kwa-Zulu Natal. The medium of instruction used in the training programmes is English, but due to

inconsistency in the level of English of the learners attending EPWP classes the facilitators were forced to interpret some of their activities in the mother tongue. The use of the mother tongue and its effects on the programme are discussed at length in Chapter 5. I attended three one day training sessions in this context, and spent a total of 24 hours of 8 hours per day conducting observations. I observed the facilitator leading lessons based on the three unit standards listed above in Table 3.1. I conducted the following observations, and gave each observation a data code to track the use of the data in the analysis and reporting.

Table 3.3 Short description of observations conducted in the study

Observation days and dates	Short description of what was observed	Code given to the observation data set.
Observations Day 1 ; 12/07/2010 in the Mthanvuna Nature reserve	Description of values and ethics and where they come from. How values develop and change Reflect on their value systems How to deal with conflicting values Description and analysis of human rights	OB 1
Observations Day 2 (13/07/2010 in the Mthamvuna Nature reserve	Detect soil erosion sites: How to control soil erosion(long term and short term) Implementation of systems of remediation of soil erosion. Evaluate the effectiveness of remediation and report on it	OB 2
Observations Day 3 on the 14/07/2010 in the Mthamvuna Nature reserve	Identification of key target problem plants in areas of conservation. Application of appropriate control methods appropriately and safely. Operation and maintenance of equipment used to control problem plants How to keep records of treated areas Carrying out of appropriate follow up procedures	OB 3

I used a voice recorder and a video recorder to capture the observations so that I could be reminded of the full process of the lesson as the lesson developed to capture details of the activities of each day. This also helped me

to develop a fuller picture of what had been happening when I undertook the data transcriptions (see Appendix 6B) for an example of the data transcriptions from the observation sessions).

3.3.2.3 Focus group Interviews

According to Hesser-Biber and Leavy (2004) a focus group is a research technique that collects data through group interaction on a topic and questions determined by a researcher. It is open and allows participants to query each other and explain themselves to each other. It has an ability to bring up valuable data on the extent of the consensus and diversities amongst the participants.

I used focus group interviews in the research to gather information on what the learners had learned each day. This method assisted me to understand what the learners had learned each day and the different ways they made meaning of their participation in the environmental skills programme. Questions were prepared in advance which lead them to share their experiences in the classroom based interaction (see Appendix 7) or an example of a focus group interview schedule used in this research). Patton (2002: 343) states that:

> The advantage of an interview guide is that it makes sure that the interviewer has carefully decided how best to use the limited time available in an interview situation. The guide helps making interviewing a number of different people more systematic and comprehensive by delimiting in advance the issues to be explored. A guide is essential in conducting focus group interviews for it keeps the interactions *focused* while allowing individual perspectives and experiences to emerge (emphasis original).

At the end of each day the focus group interviews were conducted. In total I conducted 3 focus group interviews which were coded FG1, FG2 and FG3 in my data sets. Since the class was small all the learners participated in the focus

group. The focus group interviews were video taped and voice recorded. Though the questions were in English, isiXhosa, the mother tongue of all the learners, was used here and there to open up the discussion as the learners struggled with speaking English.

3.3.2.4 Semi-structured interviews

Kvale (1996 cited by Cohen, Manion & Morrison 2004) describe interviews as interchanges of views between two or more people with a purpose of knowledge production. They may be structured or unstructured. They are termed unstructured when they are open-ended and have greater flexibility and freedom. Interview question contents and sequencing can be modified by the interviewee while in a structured interview the interviewer has less freedom to make changes and adapt to the interview situation.

I conducted two semi-structured interviews with facilitators in this study, and coded them F1 and F2 in my dataset. One of the facilitators was more engaged in the facilitation of the General Field Assistant course while the other was conducting training in Housekeeping. I also interviewed the facilitator responsible for Housekeeping as he worked for the same company, taught in the same context and had been facilitating training in DEA projects for some time. I felt that the facilitators interview questions did not only have to focus on the content and process of the environmental teaching only, but that they should also focus on the the EPWP courses, and interactions with the learners and the context. I drew up an interview schedule (see Appendix 12) to guide the semi-structured interviewing process. In order for the facilitators to remain anonymous I have labeled them as Facilitator 1 and Facilitator 2 in the study. With the permission of the interviewees the interviews were tape recorded. I transcribed all of the interviews (see Appendices 13 & 14) for an example of an interview transcription) in order to use them for analytical purposes.

3.4 DATA MANAGEMENT

As indicated in the descriptions in Section 3.3 above, the data was generated through a variety of different strategies and sources. The field notes did not have much information. They were used to remind me of the activities of each day. Most of the information is contained in the transcriptions of the audio–tapes and the video tapes. These two strategies for collecting data were used simultaneously so that they could complement each other.

Information was transcribed by listening to the videotape. Transcriptions took a long time as the video-tape and the audio-tape were listened to many times and the quality of the recording was not very good. However, having both sources helped me to produce a comprehensive record of what occurred in the training sessions that I observed. Some transcripts contain a combination of isiXhosa mother tongue and English, as translations into English were conducted as the lessons unfolded. The transcripts of the interviews and observations were sent to the facilitator for checking and verification.

I created files for document analysis; observations; interviews; and focus group interviews and stored the data according to data source in the first instance. I indexed all the data sources according to the index codes indicated above. This helped me to manage the data during the analysis process and also to trace back to the original sources of date during the writing up of the case study.

3.5 DATA ANALYSIS AND VALIDITY

In analyzing the data, I used a combination of inductive and abductive modes of inference (Denzin & Lincoln 2000). The inductive mode of inference allows one to review the data carefully to identify patterns, and themes in the data (presented in Chapter 4). The abductive mode of inference allows one to re-

contextualize data using theoretical lenses presented in Chapter 5. (Danermark : 2002) An important analytical strategy, which was also a validity strategy was to use triangulation. Patton (2002:247) states that "Triangulation strengthens a study by combining methods". In this study I used *data triangulation*, which means use of different data sources to provide perspective on a research question. The logic of triangulation is that "Because each method reveals different aspects of empirical reality, multiple methods of observation must be employed" (Denzin, 1978, cited in Patton, 2002: 247). In approaching the data analysis, I therefore tried to identify categories that emerged through a comparison of the different data sources. This helped me to 'test' whether the categories of analysis were robust, and also to see the differences and similarities in insight provided by the different data sources. Table 3.4 below shows how I approached the analysis, using the approach of triangulation. This helped me to verify findings and to test their trustworthiness. Careful, rigorous and systematic analysis of the data was necessary to make sure that my interpretations were valid. To further ensure validity, I also member checked the data with the facilitators and participants (as indicated above), and I employed researcher reflexivity (as discussed in more detail in Chapter 5).

The analysis of data was guided by the research question and the goals of the study which read thus (see Chapter 1):

Goals:

- Investigate the context of learning in the EPWP skills programmes, including the activities, the learning interactions, and the assumptions and practices influencing the EPWP skills programmes
- Investigate what and how workers learn through participating in the environmental skills programmes offered to them in the EPWP programme
- Investigate whether the workers apply or use what they have learned in the EPWP Environmental Practices and/or in other practices (as reported by the workers)

The data analysis commenced soon after the transcriptions and coding of the information had been done. The data was sorted and categories were developed. Analytic memos were constructed from recurring themes. I read through the data and came up with categories and subcategories based on the research question and the goals. The following steps were used to develop categories from the data:

1. I started coding raw data using the research question and the goals in the first instance to help me begin to identify aspects that appeared to be significant in the data. For example, focusing on what learners were learning, helped me to identify what they were expected to learn (from policy documents), and what they actually learned (from observations). This helped me to begin to 'see' into the data and to read the data in relation to the research questions. In my research proposal I identified that I would use the following categories in my 'first steps' of analysis:
    - How learners are learning
    - Assumptions of learning influencing the skills programme
    - Contextual factors influencing the learning on the skills programme
    - How learners are using what they have learned in workplace practices
    - How learners are using what they have learned in other contexts

I found these to be a useful starting point, but I found that I needed to refine these categories after initial engagement with the data.

2. From this initial analysis, I identified sub-categories by reading rigorously through the data again and again. I refined the sub-categories by coding of data in relation to the sub-categories.

3. Following this, I identified common themes from the initial sub categories, which formed the main categories of analysis (as reflected in Table 3.4 below).

Table 3.4 Categories and sub-categories used to construct analytic memos (see Appendix 2, 6 B, 11 and 15)

Category	**Sub- category**
Purpose of training/ learning within EPWP	Employment Higher education Productivity in the project
Context of learning	Policy context Historical context Economic context Physical context Education and training functioning Systems
Activities & learning interactions	Education and training Functioning systems Interactions with facilitators Interactions with each other (in pairs) Interactions in groups Interactions with the environment Interaction with the text
Assumptions	Learner assumptions Institutional/systemic assumptions Programmatic assumptions Workers/ employment related assumptions
What they learned	Knowledge Concepts Skills Values Attitudes
How they learned	Educational roles Learners roles Interaction processes Learning approaches

I used these categories to analyse each of the data sets separately, and I constructed an Analytic Memo for each of the different data sources (see Appendix 2 for the Analytic Memo focusing on Document Analysis; Appendix 6B for the Analytic Memo focusing on Observations; Appendix 15 for the Analytic Memo focusing on interview analysis; and Appendix 11 for the Analytic

Memo focusing on focus group analysis). I found the consistent use of the categories of analysis useful to see what insights could be gained from the different data sources.

I used these categories of analysis to structure the reporting of the data in Chapter 4, where the data is presented using the validity strategy of 'thick description', which Patton (2002:437) describes as "the foundation for qualitative analysis and reporting". (Patton (2002: ibid) explains further that "Good description takes the reader into the setting being described". Description is the key strategy for qualitative research, and Chapter 4 is dedicated to providing such a description of the learning of the workers in the EPWP skills programme that I studied.

However, it is also important to interpret the data, and as indicated above, I used an abductive mode of inference to do this, which involves using theory to interpret the data. In Chapter 5 I draw on social and situated theories of learning to interpret the descriptions provided in Chapter 4 in more depth. To guide this discussion, I used a set of **analytical statements.** According to Bassey (1999), a useful way of making sense of data is to condense the data into meaningful statements or what he calls analytical statements. These statements provide a way of bringing the data and the theory together, or a way of recontextualsing the data using theory. I used the following analytical statements to structure the discussion of the data in Chapter 5:

- Analytical statement 1: Diverse contextual factors influence environmental learning within the SRP / EPWP environmental skills programmes
- Analytical statement 2: Prior experiences of education influence learning in the EPWP environmental skills programmes
- Analytic statement 3: Learning in the EPWP environmental skills programmes is influenced by social interactions, activities and practices amongst learners and facilitators in the EPWP training programme
- Analytical statement 4 : Disjuncture between policy and practice influence learning in the EPWP environmental skills programmes

- Analytical statement 5: Assumptions raises hopes which influence how learners learn in environmental skills programmes. Assumptions are ambitious and difficult to realise
- Analytical statement 6: EPWP environmental training programmes develop a mix of concepts, content, skills, values and attitudes, but without giving equal attention to all, environmental learning can be limited.
- Analytical statement 7: Power relations affect what learners learn within the EPWP skills programmes

3.6 ETHICS

Bassey (1999) discusses ethics under three headings; namely, respect for democracy, respect for truth and respect for persons. Respect for democracy is concerned about the freedom of researchers and the freedom of research participants. It facilitates the fact that researchers need to have the freedom to ask questions, to give and receive information and freedom to express and criticize ideas. It also allows research participants freedom to participate in, or withdraw from a study. Respect for truth prompts researchers to take full account of the processes of research, and to be truthful in data collection, analyses and reporting of findings. A respect for people addresses issues around the respect of people's ownership of data, dignity and privacy.

To address the issues of respect for persons in this research the following actions were taken: The reports of the interviews were sent back to the interviewees for verification. I also used pseudo names for learners, facilitators and providers to protect their identities.

To address the issue of respect for truth, I tried to be as careful and systematic in the data collection, analysis and reporting as I could be. I have also tried to report the process honestly. An important process here was triangulation, which allowed me to make sure that I was producing the best possible description of the data. This process has showed relationships in the data which strengthened my confidence in the authenticity of the data. I also asked

a critical friend to read through the reports and to question the processes of the research interpretation as it unfolded.

To address issues of respect for democracy, I requested access to the projects, participants and workers from the following people and made sure that they understood the purpose and implications of the research. I had to carefully explain the reasons why I wanted to undertake the research, particularly because I had a 'normal' role of quality monitoring of training programmes and I had to explain that this research was not to monitor quality, but rather to understand the learning of the workers. Both parties were assured that the research was for academic purposes and would not jeopardize or disadvantage the activities of the provider in the programme.

I obtained permission from the following persons:

- Chief Director of the Social Responsibility Policy and Projects component.
- Training Provider responsible for teaching and learning in the projects
- Learners who participated in the training. (themselves)

3.7 CONCLUSION

This chapter described the research methodology and research methods used in this study. It also explained how I approached the analysis of the data, and provided orientation to the categories of analysis that were used to structure the reporting of the findings, which are included in the next chapter. The chapter also provided insight into how I managed the data, and how I attended to issues of validity and ethics in the research process.

CHAPTER 4
WHAT AND HOW LEARNERS LEARN IN AN EXPANDED PUBLIC WORKS SKILLS TRAINING PROGRAMME

4.1 INTRODUCTION

As reported in Chapter 3 data collected to answer the research questions was coded using categories and sub-categories. These were used to compile analytical memos analysing each of the data sources in turn to allow for triangulation of data. In this chapter I use this analytical work to describe the context and learning processes and content in the Environmental Skills Programme which I observed (see Goals of the research in Chapter 1, and also Chapter 3). As mentioned in Chapter 3, the chapter uses thick description, and consequently the data will be discussed in a narrative form.

The Chapter commences with a discussion of the environmental skills programme that formed the main focus of this study. Its components have been downloaded from the South African Qualifications Authority and the THETA websites (www.saqa.co.za, 2009) (www.theta.org.za, 2009) According to the SETA regulations a training provider needs to develop training materials based on the qualification registered by SAQA, which is then approved by the SETA before it is granted accreditation. The learning materials for this skills programme were analysed and are included in this discussion. Due to the limitations in the scope of this study only three unit standards in the larger skills programme were observed in this study. The description in Section 4.2 provides the background to the three unit standards in the skills programme that I observed. This provides useful background for interpreting the rest of the research findings.

Following this description of the skills programme, I consider the purpose of the training, as revealed by document analysis, observations, interviews and

focus group interviews , see (Section 4.3). This is followed by a description of what learners learn (Section 4.4) and how learners learn (Section 4.5). In each of the sections I discuss what each of the data sources shows about each of these aspects of the research, providing a rich description which also shows how different insights were gained from different data sources. I turn now to a description of the Skills Programme.

4.2 OVERVIEW OF THE THREE UNIT STANDARDS OBSERVED IN THE SKILLS PROGRAMME

4.2.1 Background of the skills programme

As indicated in Chapter 1, the lessons observed during data collection were part of the Conservation General Field Assistant skills programme, developed by the THETA. It is composed of ten unit standards with a total of 50 credits**.** The need for this skills programme was identified through research conducted by the THETA through their sector skills plan. The idea emanated from the South African Conservation Strategy, which identifies a need to have properly trained professionals in conservation to facilitate conservation management. According to the past legacies Black practitioners in the conservation sector were denied advancement and recognition as qualified tradespersons (see Sections 1.4 and 2.3). Improving the education of unqualified people who were working in the field was seen as a priority, leading to the registration of this qualification by THETA. It is an access qualification, and provides an entry path to people who wish to advance to a National Certificate in Conservation Resource Guardianship. A learner who obtains this qualification will carry out conservation maintenance practices within a designated conservation area, combat soil erosion and alien invader plants and perform a liaison function with neighbouring communities.

Because of time constraints, and due to the limited nature of the scope of this study, I was unable to observe the whole skills programme. I therefore limited observations of the teaching and learning to the three unit standards listed below. The components of the unit standards; namely, the specific outcomes and the assessment criteria are included here so as to inform the development of the discussion in this chapter.

Table 4.1: Unit Standards and SAQA ID information

NO	SAQA ID	UNIT STANDARD TITLE	Credits
1	8416	Understand and apply personal values and ethics	4
2	8331	Combat soil erosion	3
3	8330	Combat problem plants	3

One credit is equivalent to 10 notional learning hours, which means that the total number of hours allocated to these three unit standards would be 110 hours (equivalent to almost three full weeks of training). However, in skills programmes only a percentage of the time is contact time, and the rest is assumed to be learning 'on the job' or in the workplace. Consequently I observed three one day training programmes (about 24 hours of training), which left up to 86 hours of learning in the workplace.

4.2.2 The titles, specific outcomes and assessment criteria of the unit standards

The full content of the three unit standards, their specific outcomes and assessment criteria is provided here, as it appears on the SAQA website. These Unit Standards for the main referent for the training, and providers use these to construct the learning curriculum, their materials and the assessment activities that are used in the training.

UNIT STANDARD 8416 – Understand and apply personal values and

ethics
A person assessed as competent against this unit standard will be able to perform on the following specific outcomes:

1. Reflect on one's own value system.
Assessment criteria: Identify the values evident in their practice within at least one instance of interaction with others.
2. Describe and analyse human rights issues
Describe and analyse human rights issues in labour relations and in learnerships, as well as ethical issues more generally.
The rights and responsibilities of learners, training providers and employers in the learnership contract.
The rights and responsibilities of employers and employees in the Bill of Rights, the Labour Relations Act, the Employment Equity Act, the Basic Conditions of Employment Act.
3. Deal with value conflicts between themselves and another person
Identify values differences in at least one instance of interaction with another person in a workplace or education/training environment.
4. Describe how the conflict was handled and describe an alternative with reference to the values underpinning how conflicts are handled.
5. Describe where values and ethics come from, with reference to your own values and ethics
6. Describe how values of an individual develop and change, with reference to personal life experience

(www.saqa.co.za, No pages, 2009)

As can be seen from the above, learners in the skills programme are expected to engage with values and ethics from a personal perspective, as well as from a relational / interactional perspective, and from a human rights perspective relevant to the workplace. The total time allocated to this learning is 40 hours (4 credits).

UNIT STANDARD 8331 - Combat soil erosion
Specific outcome 1; Evaluate the effectiveness of the interventions and improve on them
Assessment criterion 1: A list is made of the techniques that are currently available
Assessment criterion 2: A detailed explanatory note is written on each of these techniques
Assessment criterion 3: A summary is given of the techniques that were

found to work best under particular conditions
Assessment criterion 4: Lessons learned are noted in order to apply these to future practice.
Assessment criterion 5: A report on remedial actions taken is given and possible aspects for improvement are identified
Assessment criterion 6: Assistance is rendered in the rehabilitation of selected areas by planting grass and / other forms of vegetation as appropriate

Specific outcome 2: Implement systems of remediation and report on them
Assessment criterion 1: Assistance is rendered in planning, organizing and implementing remediation
Assessment criterion 2: A report is prepared outlining the problem and the proposed solution
Assessment criterion 3: Suggestions are made on possible remedial intervention actions

Specific outcome 3: Control erosion through taking appropriate remedial action in the long and short term
Assessment criterion 1: Interventions are implemented that are aimed at controlling the causes of soil erosion in the particular area
Assessment criterion 2: A selection is made of techniques appropriate to them
Assessment criterion 3: The techniques employed are justified in terms of ecological principles

Specific Outcome 4; Detect and explain the causes of soil erosion
Assessment criterion 1: A determination is made of the causes of soil erosion in terms of the likely factors
Assessment criterion 2: the precise nature of the damage done is specified with a view to stopping or limiting soil erosion

Specific outcome 5: Detect Soil erosion sites
Assessment criterion 1: Accurate observations are carried out for the purpose of detecting the following signs of soil erosion at the site (missing top soil, areas denuded of vegetation, gullies, basic soil profiles, and evidence of excessive runoff).

(www.saqa.co.za, no page numbers, 2009)

As shown above this unit standard requires practical engagement with soil erosion management practices, and it also requires learners to understand and differentiate between key concepts necessary for soil erosion management, and to use specialized language used in soil erosion management (e.g. gulley

erosion). The learners are also expected to select appropriate techniques (and thus to differentiate between them), and to report (in writing) on choices made. This requires a complex combination of knowledge and practical skills. The learning time allocated to this unit standard is 30 hours in total (3 credits).

UNIT STANDARD 8330- Combat problem plants

Specific Outcome 1: Identify all key target problem plant species in a conservation area

Assessment criterion 1: The concept problem plants is defined as it applies to nature conservation

Assessment criterion 2: Problem plants in the area of operation is identified and listed

Assessment criterion 3: The harmful impact that these plants have on the environment is explained

Specific Outcome 2: Apply the appropriate control methods accurately and safely

Assessment criterion 1: A suitable method of control is applied while taking relevant factors into consideration

Assessment criterion 2: A justification is discussed for the method of control that was selected and applied

Assessment criterion 3: The advantages and the disadvantages of the methods used is explained

Assessment criterion 4: Appropriate control methods are applied safely.

Specific Outcome 3: Operate and maintain equipment used in the control of problem plants

Assessment criterion 1: A demonstration is given of competence in handling and maintaining equipment

Assessment criterion 2: Appropriate tools are selected for the task on hand

Assessment criterion 3: Selected tools are operated safely and efficiently according to operation and manufacturer's requirements

Assessment criterion 4: Equipment is maintained in good working order.

Specific Outcome 4: Keep records of treated areas by means of a recognized method

Assessment criterion 1 - Areas where problem plants have been

identified and/or treated is indicated on suitable maps for record keeping

Assessment criterion 2 -The plants treated and their precise location is recorded on an area map

Assessment Criterion 3 – The area of operation is located by means of appropriate markings on a map in order to keep record of treated areas.

Specific Outcome 5: Carry out appropriate follow up procedures

Assessment criterion 1: A map or other reference is used to locate previously treated areas to enable follow up procedures

Assessment criterion 2: The impact and success of previous interventions is monitored to identify the need for follow up procedures

Assessment criterion 3: the necessity for further intervention is monitored to identify the need for follow up procedures

Assessment criterion 4: An accurate record is kept of findings

Assessment criterion 5: Follow up treatment is implemented where necessary

(www. saqa.org.za, no pages, 2009)

As indicated above, this unit standard expects learners to understand the concept of 'problem plants' and then to be able to identify and treat such plants using appropriate treatment techniques and equipment, and area maps. Learners are also expected to monitor success and impact of their actions, and keep accurate records of their practices, and assess whether further action is necessary. The total time allocated for this learning is 30 hours (3 credits).

As indicated in Chapter 1, all of the unit standards are set at level 2 on the NQF, which would be equivalent to high school learning. Learners engaging with this unit standard would need to have completed education at least until a Grade 9 level, or ABET level 4. A certain level of conceptual competence, language literacy and conceptual skills is therefore assumed to be in place (e.g. the ability to differentiate between concepts, the ability to record and report information and practices etc.) as indicated by the expectations of the unit standards described above.

The training provider developed materials for the above unit standards guided by the specific outcomes and the assessment criteria given above. The learning materials show what is taught and how it is taught. I conducted a content analysis of the materials, which is summarized in Table 4.2 below:

TABLE 4.2 Content analysis of the learning material for the unit standards observed in this study

Understand and apply personal values and Ethics: Unit standard 8416 pg 46-66 of the learning material document.	**2. Combat Problem Plants (212-218) Unit Standard (8330)**	**3. Combat Soil Erosion (203- 211) Unit Standard 8331**
Opens up with group activities: 1. The groups discuss their understanding of and the meaning of the word ethics 2. After discussing it they need to write down their groups' definition on a piece of paper 3. Activity groups need to discuss the right things to do and wrong things to do 4. After discussing they need to write the right things and the wrong things down 5. A short paragraph is given on the explanation of what ethics are about. 6. The teacher discusses with them	Opens with a dialogue 1. Learners to read the dialogue twice and take turns to read each part 2. The dialogue is between the visitor and a conservationist 3. The dialogue is introducing the learners to what alien plants are 4. At the end of the dialogue the conservationist explains what alien plants are, and how they are a threat to the environment 5. Learners then need to read the activities on categories of alien plants published by the Department of Water Affairs 6. Read the categories of alien plants	Opens by Identification of the erosion sites 1. Read the paragraph explaining soil erosion and the different types of erosion 2. Concept of accelerated and natural soil erosion is presented 3. Learners to complete tables listing the differences between natural soil erosion and accelerated soil erosion 4. Learners are shown pictures of soil erosion sites 5. Learners are instructed to study the pictures and 6. List all of what they notice on the pictures 7. Design a chart that clearly explains the criteria used to identify

the meanings of reasoning, intentions, motives and actions 7. Under the heading behavior in daily lives – learners to read a case study 8. Grouped in partners to answer questions from the case study 9. Facilitator introduces a topic on values 10. An explanation of values as ideas about right or wrong 11. Learners expected to make a list of the parts that make up a social environment 12. Deal with value conflicts – Learners read the information & complete the activity 13. Look at the picture of men hitting each other with their heads 14. Get information about the situation 15. Get information about the situation around the conflicts 16. Arranged in partners to read a case study about Bonginkosi – a conservationist in a nature reserve – Bonginkosi is working in a nature reserve in his community. The plants went missing in the nature reserve. Discuss and answer the questions based on the case study	7. Teacher to explain why we have alien plants 8. Learners to discuss the possible threats posed by alien plants in groups 9. Learners to list threats of alien plants on a spider web diagram 10.Learners must add the impact of alien plants into their chart 11. Learners to prepare a choral presentation on alien plants 12. The title of the song should be GO AWAY ALIEN Plants 13. Discuss how they can control alien plants 14. Discuss how the herbicides can be handled 15. Indicate how they can protect themselves from herbicides	soil erosion 8. Read a paragraph on the cause of accelerated soil erosion 9. Read and discuss the soil erosion process 10. After the discussion learners design a flow diagram to explain the soil erosion process. 11. Discuss the control of soil erosion

17. They are to imagine that they are Bonginkosi 18. Compare notes with partner		

As shown above, the materials indicate a range of mediation strategies to be used by the facilitators in the skills training. These include working in groups, encouraging learners to discuss aspects of the text with each other, reading, using case studies, comparing insights and understandings with others, making charts, presentations and writing down what has been learned.

A comparison of the unit standards and the content of the materials shows the following:

- For the ethics and values unit standard, the materials included understanding of the following concepts; meaning of ethics, values, right and wrong and how it differs amongst people through group activities and value conflicts but did not give attention to the understanding of human rights in labour relations and learnerships as well as how values develop and change.
- For the soil conservation unit standard, the materials included understanding of the following concepts; soil erosion, accelerated and natural, differences between the two, and the causes of soil erosion, but did not give attention to different techniques to combat soil erosion, responses to what has been done and systems of remediation. Accelerated and natural erosion discussed in the learning materials are not included in the unit standards.
- For the problem plant management unit standard, the materials included concepts on the understanding of alien plants and alien plants listed by the

Department of Water Affairs and their categories but did not give attention to different methods of control measures, equipment used and how it is used, operation and maintenance of equipment and mapping of records.

I now turn to a more detailed discussion of how the use of these unit standards and materials played out in the context of practice. This is done through considering insights gained from documents, interviews, focus group interviews and observations of the training. The data is presented according to the main categories of analysis, as described in Chapter 3. These are: purpose of the training (section 4.3); contextual factors influencing the training (section 4.4); what learners learned (section 4.5); and how learners were learning (section 4.6).

4.3 PURPOSE OF EDUCATION AND TRAINING IN THE EPWP CONTEXT

The discussion in Section 4.2 above shows that the unit standards indicate a specific purpose for the conservation training which requires engagement with values and ethics, and conservation knowledge and practice (e.g. problem plant management, and soil erosion management). There are, however, broader purposes of the training which I found to be significant in an analysis of the data. These became evident in documents analysed, interviews, focus interviews and observations. I share findings from each of these data sources.

Documents: The purpose of the training in EPWP is explicitly given in the following policies namely the Reconstruction Development and Production document of 1994, The Skills Development Act of 1998, the State of the Nation address by the President in February 2003 (when the EPWP was launched), the Code of Good Practice for EPWP phase 1, the Training Strategy developed by the Department of Public Works for EPWP phase 2 and the Department of Environmental Affairs Training Policy of 2009 (D1-6; all documents are fully referenced in Chapter 3). They concur that the purpose of learning in the

EPWP is to enable the unemployed to progress to higher levels of education and to gain skills. For example, the RDP document indicates that the purpose of training is: “To enable the learners to progress to higher education from any starting point and develop an ability to obtain credits and recognition for their learning” (D1: 3).

All of the documents indicate that the purpose of training in the EPWP programme is to develop skills that would lead to employment (D1-D6). For example, the Skills development Act of 1998 reads thus: “to improve the skills of the South African workforce; provide learnerships that lead to recognized occupational qualifications that develop the skills of the South African Workforce; and provide employees with opportunities to acquire new skills” (D2: 1-3). The Code of Good Practice document states that EPWP need to “Equip workers with skills that can be used to secure other employment opportunities and identify career paths available to workers exiting” (D4: 11). The 2003 President’s State of the Nation Address states that the purpose of EPWP is “To draw the unemployed into productive work and that those workers gain skills while they work and thus get an opportunity to get out of those marginalized by poverty”**.** (D3:3)

The training policy of the Department of Environmental Affairs says that “training within EPWP needs to provide learners with opportunities to be declared competent in respect of accredited training skills programmes that form part of an accredited qualification. It needs to increase the ability of the trainee to permanently enter the job market and to obtain credits towards a qualification” (D6: 13-14)

The documents also emphasize that training needs to develop the ability of workers in the EPWP to be employed and to employ them to enhance the abilities of the unemployed to get employment and enter the world of work i.e. to enhance their labour mobility. The Skills Development Act of 1998 reads

thus: “training needs to improve the quality of life of the workers, their prospects of work and labour mobility, to improve the quality of life of the workers, productivity in the workplace, and competitiveness of employers. It should promote self employment and improve delivery of social services. It should assist the employment of persons who find it difficult to be employed, improve the employment prospects of persons previously disadvantaged by unfair discrimination to address those disadvantaged through training and education”(D2:4-6; 12-14).

The training policy of the Department of Environmental Affairs emphasizes that “training in the EPWP needs to create self employment taking into account the needs of the job market”. It goes on to say that the EPWP should “create entrepreneurial opportunities for trainees firstly in the areas in which they reside and in the country as a whole”. The document also states that the “training qualifications facilitated must be aligned to the training fields that support the function of DEA and must be relevant to and aligned to DEA’s mandate and functions. It must also be applicable to the project implementation. It must also assist them to work better to improve productivity in the EPWP projects.” (D6: 16-17; 18-21)

As can be seen from the above, the expectations associated with the EPWP training programmes are high not only in terms of relevance and productivity outputs associated with the training, but also in terms of how the training is to facilitate labour mobility. What is striking, however, is the fact that the documents do not refer to other factors that might influence labour mobility (e.g. availability of jobs; or prior knowledge and experience of workers etc.) an issue which I return to later in the study (see Chapter 5).

Interviews: The understanding of the purpose of the training as improving employability for the workers also came up in the interviews with the facilitators. They raised concerns around training improving employability, and

referred to some of the other factors that may prohibit a direct causal link between EPWP training and employability. They commented on preparation for employability, jobs and employment in the project. Facilitator 2 commented for example that “learners need to support the tourists in future and tourists speak English only” (I2:52). He was stating that if they were not proficient in English it would be difficult for them to be employed in the expected roles and work opportunities, raising the issue of learners’ prior knowledge and experience, and how this relates to the training, but also through this to the world of work and their employability. (I2:52) For this reason the facilitators used English as the medium of instruction, which indicates that they were conscious of some of the factors that had to be taken into account in their teaching as they were preparing workers for employment through the EPWP.

Facilitator 1 (I1:46) further commented that the workers are trained either for employment or further education. He stated that while they train people for these purposes, after the training no one seems to care as few follow ups are made to see what trainees have gained. The comment indicates that his belief / conviction is that training is not just for training but that there should be a follow up of results to ensure that the intended purposes of the training are met.

Focus group: As indicated in Chapter 3, at the end of each day’s training I conducted focus group interviews with the learners involved in the training. Learners reflected the same purpose of understanding as that shared in the documents and by the facilitators. In each of the focus group interviews, the hope that training would lead to employability came up. For example, when the learners were asked how useful this course would be to them they answered as follows:

Learner 1: Yes- it will open a chance for me to get a work in this game reserve and others. It will assist me to get work in the environment sector.
Question : How was this knowledge useful to you?
Learner 8: It can assist me to get a job. It will assist me to teach the Tourists about our local plants, trees and their uses.
Learners 1: when I get the work in the reserve.
Learner 2: when I get work in the environment.
Learner 3: when they say they want a person who has done field assistant I shall benefit. (FG3:20-24)
Learner 4: When taking around the tourists, now that I know the names of the plants in English I shall assist them better.

The above extracts from the focus group interviews indicate how the learners made the connection between the purpose of the training and employment in the environmental sector. I also noticed in the training sessions that whenever the learners were asked a question they ended their discussions with reference to seeing themselves employed in the nature reserve, in tourist areas and in the environment sector. (OB1:65)

As indicated above, the training-employment relation in the EPWP is seen as a way of getting out of situations of unemployment and improving labour mobility and access to the world of work. As noted in Chapter 2, however, the context of poverty is a complex one in South Africa, and has historical roots, socio-economic consequences for people, and quality of life implications. Policy responses have been conceptualized out of which the EPWP programme emerged. I now discuss each of these in more detail, with reference to the different data sources.

4.4 CONTEXTUAL FACTORS INFLUENCING THE TRAINING

In this section I discuss aspects of the policy context (Section 4.4.1), the historical context (Section 4.4.2), the economic context (Section 4.4.3) and contextual aspects of education and training system functioning (Section 4.4.4) as identified in the data sources, as these all have bearing on what the

learners learn, and how they learn, and ultimately if the intentions of the training programmes can be realized. This section specifically addresses one of my research goals which is to investigate the context of learning in the EPWP skills programmes (as indicated in Chapter 1, Section 1.5).

4.4.1 Policy context

Document analysis showed that there was a policy expectation that education and training needs to be given to workers and it needs to be associated with their place of work. The DEA training policy says that training needs to be provided to persons employed in the EPWP projects. However, in the skills programmes that I observed, it emerged that the people who were being trained, were not working in the project but that some had once worked in the project (FG1:2). This was revealed in the focus group interviews on the second day when the learners commented, “We are not working in the project, and I worked for one month and was taken out. We belong to the community where the project is situated.” (FG3:2). This was because the workers in the project are employed on a rotational basis. They work for one month and then leave a place for others to work in their place. This was to distribute the income generating opportunities more evenly across the community, and also because the work opportunities were generally short term in nature. A policy-practice disjuncture was therefore observed in this case study. This practice (of training workers who were not working in the project) goes against the general recommendations in The Skills Development Act which states “the employers need to be encouraged to use the workplace as an active learning environment” (D2:9)

Other policy instruments that were influential in the training programme being observed emerged from the environmental policy context. The environmental policy context was noted as being significant in the DEA EPWP training policy

document. For example, the Constitution of South Africa, the National Environmental Management Act of 1998, the Protected Areas Act and the Conservation Act of 1989 were mentioned and inferred in various of the documents and class observations' discussions. The mandate of the department is mentioned time and again in the DEA policy which is D6 of the documents analysed in Chapter 3. The mandate of the department addresses for example, the Constitutional Clause on environmental rights and management, the National Management Act and the National Environmental Management: Protected Areas Act (D6:20).

Aspects of the environmental policy context that appeared to influence the training are inferred to in the class observations (OB1:89): For example, clause 24 of the constitution says that everyone has the right:

To have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:_

1. *Prevent pollution and environmental degradation.*
2. *Promote conservation and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development" (OB1:89).*

According to principle 2 of the NEMA (1998), "Environmental Management must place people and their needs at the forefront of its concern and serve their physical, psychological, developmental, cultural and social interests equitably" (OB1:86). Significant to this skills training programme is the fact that the National Environmental Management Act recommends the consideration of people in the conservation of the environment. This is also reflected in the National Environmental Management Protected Areas Act, of 2003 which allows communities and management authorities to enter into written agreements to use biological resources in a sustainable way (Section 50).

Section 42 allows co-management agreements to be signed between local communities and protected areas management authorities. This allows delegation of power, income sharing, benefit sharing, and use of natural resources, knowledge exchange and financial support. (Protected Areas Act, 2003, OB1; 86) I noted that these policies were prominent in guiding the training content, and were also visible in the discussions that took place during the training. For example, reference was made to the fact that there should be communication between the reserve officials and the communities (OB1:86) (OB1:88-92)

From the above discussions it seems that there were two key policy influences on the training, notably the government's poverty alleviation policies, and new environmental policy in South Africa that was oriented more towards a people-centred and rights based approach to conservation, which included intentions of benefit sharing.

4.4.2 Historical context:

Documents: The Code of Good Practice (D4) and the RDP (D1) documents provide references to the need to redress past problems. They recommend that preference in the training should be given to the previously disadvantaged (women, youth and the disabled) (D1:1 & D4: 1). The Skills Development Act (D2:9, 10-14) brings historical facts around unemployment amongst the disadvantaged to the fore. It recommends that workers should be trained, "to improve the employment prospects of persons previously disadvantaged by unfair discrimination to address those advantages through training and education" (D2:14). The State of the Nation Address (D3:3-4) also emphasizes the need to prioritise redress, and it states: **"**the unemployed need to be extricated from conditions of underdevelopment and entrenched poverty, EPWP needs to draw the unemployed into productive work and that those workers gain skills while they work and thus get an opportunity to get out of

those marginalized**”.** Similarly, the DEA Training policy (D6: 4,6 &14) document contains historical examples that explain the same objective, namely to take the people out of poverty of the past, and to increase the ability of the trainee to permanently enter the job market and obtain employment after the completion of the project. From the above, it seems that in the policy and training documents, wherever reference is made to the past it points to the past history of the country, and the need to prioritise redress, and training and employment opportunities for those who have been historically disadvantaged, most notably the poor and unemployed.

Focus group: The focus group data provided historical insight into how communities have been treated by nature reserve officials in the past. Most of the learners (12 learners out of 14 learners) referred to ways in which communities were punished and reported to the police when they poached or utilized resources from the reserve without permission. This was a common practice of rangers who used to work for the former Department of Nature Conservation. For example, one learner said, “I must not start by reporting the problems in the nature reserves to the police. I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve. I have learnt the importance of communication between communities surrounding the nature reserves and the workers working in the nature reserves” (FG1:4-6).

This discourse also indicates changes in the nature reserves as a result of changes in history. In the post-apartheid era, new policy has been established that allows community members to utilize some of the resources in a nature reserve, so that communities may benefit from these. An example of what learners have learned in this regard is provided in Focus Group 1 when one of the learners said: “Plants at certain times can be sold to doctors and hospitals, the money received can be used to support community activities like crèches in the community.” In Focus Group 2 learners referred to history when

explaining the differences between alien and indigenous plants. They indicated that alien plants are coming from other countries as South African history shows movements of people from different countries. From the above, it is clear that references to the historical context in the learner focus group interviews had more to do with the history of conservation practices and conservation issues than the issues of redress as used in the policy and training documents referred to above.

From the above it seems that there were two key historical factors influencing the training; namely, the history of disadvantage and poverty; and the history of exclusionary conservation policy and practice in the past.

Observation: During observation of the training a number of historical aspects were referred to, most notably the historical treatment of people/ communities in reserves by the past regimes. "They recommend that anyone who snatches something from the reserve (plant, animal or tree) need to be reported to the police." (OB1: 61). This was also noted during observations by one of the learners, who brought historical information to the fore when he explained that that before the reserve was established, the communities were called and told that they were not allowed to "fetch wood, hunt, and take anything out of the reserve whether a stone or a flower".(OB1:82). The observation data therefore also revealed more emphasis on the history of conservation and conservation practices than on redress, as used in the policy and training documents.

4.4.3 Economic context

Documents: In the documents a number of economic concerns are raised and established. The Skills Development Act (D2) indicates that training must have economic benefits for the learners. The issue of employment is raised and it is stated that EPWP needs to improve employment. Employment is related to

issues of economic growth. (D2:12) The Code of Good Practice and the DEA training policy state that "learners must get a stipend during training and further recommend that they be paid training allowance"(D4:7; D6: 22) The documents also state that through the EPWP the quality of life of the people in the communities need to be improved. (D2:6) The documents anticipate that the training should assist them to enter the labour market. (D6:22; D2:11) The purpose of all the issues raised above is to improve the economic climate of the workers and their households which is intended to end up improving the economy of the country.

Observations: During the observations a number of concerns were raised around the training. In particular, when problems were discussed that were related to the reserve the learners felt that the solution would be to protect their jobs, as their jobs were the source of income (OB1: 64; OB1: 81). It was noted that nature reserves are also there for the economic benefit of their communities, and that the reserves can, for example, support community projects like crèches with money that is collected from visitors for a community levy. (OB1: 90-92)

Focus Groups: In the focus groups the learners raised issues that were mostly associated with what they had learned in the lessons. They learned that resources in the reserves need to be conserved for future generations and future economic uses. They noted that plants can be sold to chemists and doctors, and that the reserve can assist them to get jobs and that it could assist them in creating growth of income (FG1: 9-10) (FG2: 7) (FG3:22).

Interviews: Both facilitators indicated that some learners come to training just for the sake of getting a stipend (I1:29) "There is one who I think has just come for a stipend". In the second interview, the facilitator comments that "One of the learners' weaknesses is negligence- they do not take training seriously saying DEA is paying us." This shows that they are more interested in

the economic benefit of the training, and not necessarily in acquiring knowledge. (I2:53)

From the above, it is clear that the economic context influenced the training in diverse ways. Firstly it provided the motivation for the EPWP programme and was shaped by government poverty alleviation policy and strategy. At nature reserve level, economic possibilities existed, or at least that is what the training appeared to be indicating; and there were economic incentives for participants to attend the training, which as reflected by the facilitator, may have skewed the interest in the training towards the economic benefit, rather than new knowledge acquisition.

4.4.4 Contextual aspects of education and training systems functioning

Another significant contextual factor that emerged in the data is the contextual aspects of the education and training system functioning, particularly how these systems function in the EPWP. As above, I discuss how this became apparent in the various data sources that I analysed.

Documents: The EPWP training strategy developed by the Department of Public Works (D5) and the Code of Good Practice for EPWP phase 1 (D4) documents both indicate that the training needs to be relevant to, and implemented in the workplaces of the learners, in order to fast track and improve the quality of the work and the quality of life of the people involved in the training, and that the training should be informed by skills audits in context so that these needs could be met. For example, the Training Strategy document (D5: 14) states that “Skills audits are a priority. Training should be aligned to scarce skills. (D5:11) Training should be programme specific. It needs to shift to quality training.” (D5:12) The Code of Good Practice document recommended the following, “Proper skills audits should be conducted where

possible" (D4:5) The DEA policy says, "The training readiness of workers and their levels of education must be determined before appropriate courses are recommended" (D6:22).

Another key education system feature mentioned in all of the documents was accreditation of training. All the documents state that training conducted should be accredited training. For example, the Skills Development Act (D2:17-19) states that "When completed the [learnership and skills programme] constitutes credits towards a qualification registered in terms of the NQF as defined in section one of the SAQA Act". The document goes on to define how the training should be delivered and quality assured when it states that "Training should be provided by training providers accredited by the Education and Training Quality Assurance as defined in Section 5 of the SAQA Act. The SETA must monitor the skills programmes funded by the SETA. A SETA that has made funds available for a skills programme may withhold funds if it is of the opinion that funds are not properly used." The Code of Good practice says "30% of the training provided should be accredited training" (D4: 9), while the Training Strategy developed by DPW (D4:9) and the DEA Training Policy documents (D6:13) state that "Training should entail both accredited and non-accredited training. *Accredited training* is training where both the training course and the accredited training provider are accredited by the South African Qualifications Authority" (D5:7).

The documents also emphasize the notion of 'scarce skills' which is a term used in the South African National Qualifications Framework and the SETA system to indicate areas where shortages of skills exist in the country. The Skills Development Act and the Department of Public Works Training Strategy document (D5; D2) state that "Training should be aligned to critical /scarce skills. (D5:11) and that "It should lead learners to qualifications". (D2:2). The issue of quality is also emphasized, and the DPW training strategy document

(D5) states that “It should be quality training which would lead to qualifications” (D5:6; D5: 12).

From the above it is clear that the policy and training documents emphasise five critical aspects relevant to the way in which the education and training system functions (or is meant to function) in South Africa; namely, that training should be workplace oriented, that it should be accredited, that it should be aligned with qualifications, and that it should address scarce skills, and be of a high quality. The assumption appears to be that accredited training that is relevant to the workplace and linked to qualifications constitutes high quality.

Focus Groups: In the learner focus groups it was identified that the learners were not working in the project as stated by FG1:2 “We attended a course in January and were told that we will be called if our names appear in the list of the next course”. (FG2:5). This shows a disjuncture with one of the key policy directives noted above, namely that the training should be linked to the work of the learners and should be workplace based. One of the learners indicated that she did not like the course, which shows that her choice of training and preferences were not taken into consideration, or that the training needs analysis was not adequately geared towards establishing individual preferences or orientation to the subject concerned (FG: 9).

Focus group data therefore showed a policy-practice disjuncture in the way that the training was (or was meant to be) constituted in the workplace.

Interviews: The interviews showed that the facilitators had different points to make about the education and training system functioning. Firstly, they raised concerns about the differences amongst the learners in class. Though most of them range between grades 9- 12 some have been out of school for a long time while others have just completed school. “Those who have just completed school are coping better with the understanding and use of the

medium of instruction – English - than those who have been out of school for a long time as their level of English literacy is low" (I1:30-31; I2:16-20).

Secondly they noted the importance of interest and motivation for the training. They mentioned that the learners should be given a chance to choose the skills programmes they are interested in. (I1: 41) Facilitator 2 indicated "there is a need for proper skills analysis before the EPWP training commences." He went on to explain that the skills analysis should not end there, the skills programmes offered need to be explained to the learners so that they can make informed choices relating to the skills programmes that interest them. He indicated that sometimes learners are attracted by the names of skills programmes without understanding the content of the training. (I1:41). They also commented on the modality of the training, and noted that there should be a better mix of theory and practice, as one facilitator noted "They should also be exposed to practical training." (I1:35)

From the above it seems that the policy intentions are not that easy to achieve in practice. Undertaking skills audits and assessing learner interest and relevance of training to learners in workplaces appears to be a key area that requires further development. Prior educational level and experience with the language of learning also appears to be a contextual factor influencing the training. Other education system functioning issues are raised later in this section, in the discussions on what and how the learners learned in the particular training programme under study (see Section 4.5 and 4.6 below).

4.5 WHAT LEARNERS LEARNED

As noted in the research questions (see Section 1.5), one of the main goals of the study is to investigate **what** the workers learn in the environmental skills programme. As indicated in Chapter 3, I used various research methods to

investigate what learners learned. Through careful reading and re-reading of the data, I was able to develop sub-categories of analysis to understand more fully what the learners had learned. These include content and concepts (see Section 4.5.1); skills (see Section 4.5.2), values and attitudes (see Section 4.5.3). The NQF with its outcomes-based approach to learning emphasizes knowledge, skills and values as being important in learning (see Chapter 2).

4.5.1 Content and Concepts

Documents: The RDP and Skills Development Act documents are not explicit on knowledge and concepts to be learned while participating in particular skills programmes. Being a more generic document, guiding all training, it expresses what should be learned by means of expectations at the end of participation in learning in the programme. It says "learners should receive credits towards a qualification and for the recognition of their learning" (D1:4). "Training should provide the learners opportunities to be declared competent" (D2: 2). It explains how knowledge should be acquired. It says, "Workers need to be encouraged to participate in learnerships and skills programmes. A skills programme is an *occupationally based* programme" (D2: 2, 16, my emphasis).

The DEA training policy and the training strategy for EPWP phase 2 do not indicate content, but it indicates and emphasises workplace alignment and *relevance to project and DEA mandate*. These documents state that the training should be programme specific, promote quality training, and be aligned to critical and scarce skills (D5:12; D6:13; D5:11), and that it should be relevant to the project and the mandate of the body that funds the project (D5:10; D6:19; D6: 20-21). The knowledge part is therefore implied. The EPWP phase 2 training strategy and the DEA training policy introduced the focus on alignment to the mandate of the department funding the learning. That statement implies that whatever is learned should be related to the project where the beneficiaries are working as well as the department funding the

project, which in the case of DEA means that the training should be aligned to the environmental mandate of DEA. This has content implications. (D6:19; D6:20)

As indicated above in Section 4.2, the unit standards contain a number of prescriptions relating to content. Section 4.2 also showed how providers interpret this content into learning materials.

In the case of this research, the content that learners were expected to engage in was related to a) ethics and values relevant to the conservation sector; b) knowledge of problem plants and how to deal with such plants in practice and c) soil erosion and how to combat soil erosion. The system of education and training therefore uses a 'design down' approach to knowledge acquisition. Each skills programme is made up of a number of unit standards. A unit standard is further broken down into specific outcomes and credits. The knowledge component for this skills programme is described in the unit standards. From the unit standards the providers develop the learning materials and the learning curriculum. The training content is then eventually strongly determined by the learning materials (as shown in Section 4.2), and is complemented with facilitators input.

I provide a summary of the content and concepts required by the unit standards, and contained in the learning materials, as this gives a good indication of what learners *should* be learning in terms of content and concepts. I use this table later to reflect on what was *actually* learned.

Table 4.3 Content and concept analysis of unit standards

	Content in Unit Standard	Concepts in Unit Standard
Unit Standard 8416: Understand and apply personal values and ethics.	Knowledge of own value system Knowledge of human rights Knowledge of what constitutes	Values Ethics Human Rights Ethical issues

	and ethical issue Knowledge of different responsibilities for rights Employee rights Knowledge of what constitutes a value conflict Knowledge of conflict management History of own values and ethics	Rights and Responsibilities Employee and employer rights and responsibilities Diversity in values and ethics Conflict Values change Personal values Relationships
Unit Standard 8331: Combat soil erosion	Soil erosion techniques Conditions under which circumstances techniques work best Remedial actions Rehabilitation and systems of remediation Ecological principles Causes of soil erosion Signs of soil erosion	Soil erosion (causes, signs) Remedial action Rehabilitation Systems of remediation Ecology
Unit Standard 8330	Problem plant species Impacts of problem plants Suitable control methods Advantages and disadvantages of methods of control Tools and equipment needed to control problem plants Area maps Impact and success of interventions	Problem plants Control methods Impact Success Advantages Disadvantages Area maps

In the materials all of the concepts and content in the values and ethics unit standards were covered, but not much attention was given to the topic of human rights or employee rights and responsibilities. The emphasis was more on values, personal values and value conflicts and how to resolve them (see Section 4.2).

In the materials for the problem plants unit standard, the concept of alien plants is used instead of problem plants. Learners are introduced to categories

of alien plants, and they focus on threats and impacts of alien plants, and how to control alien plants. They also discuss herbicides and safety procedures associated with herbicides (see Section 4.2). Successes, advantages and disadvantages are not discussed much, and area maps are not included in the materials, nor are ecological principles.

In the materials for the soil erosion unit standard, the concept of soil erosion is introduced, as well as the concept of accelerated and natural soil erosion is introduced (not in the unit standard), and they are asked to differentiate between these two types of soil erosion. They also engage with criteria to identify soil erosion, and discuss causes and control. They focus on the soil erosion process (see Section 4.2). Remedial actions and rehabilitation are not emphasized much.

From the above it is clear that some changes to the content and concepts occur from unit standard to materials. I now look at what occurred in the actual training.

Observations: As mentioned in Chapter 3, the observations took place in the project site, which is in a nature reserve, and the training was focused on the three unit standards noted in Section 4.2, which were oriented towards developing the competences to become a Conservation General Assistant (as indicated by the title of the skills programme). During the training observations I identified the following concepts and contents that were introduced: sustainability, resources, conservation of resources, extinction of plants and animals, ecology, ecosystems, natural resources, tourist attractions, indigenous and alien plants, threats of alien plants, soil erosion, threats of soil erosion, importance of communication between nature reserves officials and communities around them, conservation awareness, different types of trees and their uses, causes of soil erosion and controls.

Table 4.4 Content and concepts covered during the training programmes

	Content covered	**Concepts covered**
Observations Day 1: Values and Ethics Unit Standard	Discussion of right and wrong Right and wrong are influenced by the background learners Knowledge of values and where they come from Understanding of conflicting values Conflicts between communities and game reserves How conflicts between communities and nature reserves can be managed How nature reserves can assist communities around them The new approach to conservation against the old approach to it.	Ideas of right or wrong Values Conflicting values Fauna and flora Extinction Conservation awareness Conservation Ecology Community levy
Observations Day 2: Problem plants unit standard (combined with issues of conservation and resources)	Understanding of the meaning of sustainability in relation to conservation Definitions of ecology and ecosystems Explanation of different types of ecosystems(Water and mountain ecosystems Examples of natural attractions Reasons for conservation of resources Went for fieldwork	Sustainability Ecology Conservation Ecosystems Resources Man- made resources and natural resources Tourist attractions Problem plants Alien Plants Threats caused by alien plants

	Introduced to different types of trees- indigenous & alien trees. Presentations on the names of alien and indigenous plants observed in the field Problem plants and alien plants. Two words used interchangeably Alien and Indigenous plants and the differences between them. Examples of the names of alien and indigenous plants The threats and uses of indigenous and alien plants on the environment. Ways in which they spoil the environment Examples of natural attractions Reasons for conservation of resources	
Observations Day 3: Problem plants & soil erosion unit standard	Problem plants and Alien plants. Two words used interchangeable Alien and indigenous plants and the differences between them. Understanding of the meaning of sustainability in relation to conservation Soil erosion and cause of soil erosion. Threats and effects of soil erosion to the	Problem plants Indegenous plants Alien plants Categories of alien plants Siltation PH of the soil Soil erosion

	environment and resources	

From the above, it is clear that there was not strict reference to both the unit standards and the learning materials' content and concepts during facilitation. The information was handled as it flowed from the facilitators' mind. In Unit Standard 1 and Observation 1 less content was covered in the observation than what was required by the unit standards. The content differed from that expected in the unit standards in the following ways: human rights issues, ethical issues, rights and responsibilities, employee and employer rights and responsibilities were not discussed. Additional concepts were also introduced like fauna and flora, extinction of resources, conservation awareness conservation and community levy.

In Observation 2 there was a combination of content and concepts from resources, problem plants, and conservation. The concept of sustainability was introduced. This was not included in the unit standard or the learning materials but was introduced by the facilitator. That resulted in less emphasis of the content to be covered on problem plants. Problem plants were introduced during field work and discussed in class emanating from the reports from the field work exercise. What was covered on problem plants were the names of the indigenous ant the alien plants they observed in the field as well as their usefulness in the environment. In the observations there was a lot of overlapping between unit standards. Some concepts and content contained in unit standards were not discussed. In the midst of that more concepts and content were transmitted for example, fauna and flora, extinction, pollution, global warming and carbon sinks, resources (man made and natural) and tourist attractions.

In Observation 3 (problem plant unit standard), there was a combination of content and concepts from problem plants and soil erosion. What was covered in soil erosion were the causes of soil erosion, the influence of alien plants on soil erosion and how both soil erosion and alien plants are a threat to the environment. A lot of practical information was not addressed for example, soil erosion techniques, remedial actions, rehabilitation and systems of remediation, control methods of problem plants, tools and equipment needed to control problem plants, area maps and success of interventions. The issues of siltation, pollution, ph of the soil, increase in fire risks, decrease in quality of the water came up as the discussions on the threats caused by alien plants on the environment unfolded.

The discussion above indicates that at the classroom level there is not much reference to the unit standards as the source of what is expected to improve the knowledge, skills, values and attitudes of the learners.

I now share some examples from the data to show the teaching of concepts and content. The data shows that facilitators used different strategies to teach content and concepts, and these are indicated below. For example, the extracts below show that the facilitator explains concepts, asks questions, and tasks learners with finding information for themselves.

Explaining concepts:

> Facilitator: "Conservation is the wise use of resources to ensure sustainability". That led to questions from the learners. Learner 1 asked "Can you explain to me, I do not understand sustainability". The facilitator responds: *Kukusetyenziswa kwendalo, kodwa yongiwe ingagqitywa* [It is the use of resources conserving it so that it becomes available even tomorrow and in the future]. (O2:2-4)

> Facilitator: "Ecology is the study of living and non-living in their own environment. Frogs lay their eggs in water – someone who wants to learn about frogs will learn a lot about frogs in the water- that is their ecosystem. Sometimes one goes to study the animals on the mountain;

for animals on the mountains that is their ecosystem and the relationships and interrelationships in the environment." (O2:5-7)

And in another example, the facilitator explains extinction:

> Facilitator: "Most of the plants in the Eastern Cape are on the verge of extinction. They have been put in the list of red label plants. What is important is that communities need to appreciate the conservation facility/reserve so that in future it can help their children. It is so bad and sorry to loose the animals and plants in an area. Gave examples of animals in extinction e,g. Dodos in Mauritius. If they are extinct/ or go on extinction we, our children and our future generations will never see them again. So in decisions we make we need to think about others(OB1: 92-95)

Asking questions: The facilitator also asked questions from the learners:

> Facilitator: What are the natural resources?
> Learners: fauna, flora, water, soil
> Facilitator: What are man-made resources?
> Facilitator: Some of the resources act as natural attractions for tourists in South Africa:
> Facilitator: Which natural attractions attract people to South Africa? (OB2:7-10)

And from Observation 1, focusing on values and ethics, the following conversation shows the facilitator using questions to convey content:

> Facilitator: Which rivers act as tourist attractions? e.g Zambesi "Facilitator: Which natural attractions attract people to South Africa? Facilitator: Which rivers act as tourist attractions? e.g Zambesi, Nile, Vaal
> Researcher: but Zambesi and Nile are not in South Africa. – Zambezi is in Zimbabwe and the Nile is in Egypt (OB2: 12-14)

> Facilitator: Truly we are referring to Southern Africa which has a landscape of about 3.5 million square Km. Southern Africa takes and encompasses countries like Swaziland, Lesotho, Botswana and Namibia.
> Facilitator: Which waterfalls are prominent main attractions in Southern Afica : Victoria falls" (OB2: 15-16)

From the above it is possible to see that the facilitator mediates the content and concepts by means of questions. He asks diagnostic questions to

understand what the learners know. When the learners do not understand, they ask questions for clarity and ask for further explanation, which the facilitator responds to. He also explains concepts by means of creating examples and scenarios for example; the ecosystem of the frogs is the water, ecosystem of animals in the mountain or the example of the Dodo's in Mauritius cited above. He corrects wrong answers and wrong information. For example in the extract above, it was mentioned that Zambesi and Nile were the tourist attractions in South Africa and he corrected the wrong answer by saying he was not referring to South Africa but to Southern Africa.

Encouraging learners to find information themselves:

Another strategy to convey content and concepts is through giving the learners chances to get information by themselves. A common approach used is to divide learners into groups. In the groups they discuss information in the learning support materials on the topic and compare it with their observations during field work, relate that information to what they have learned, prepare presentations and present the information to the rest of the class.

For example, in Observation 2, learners were asked to find information for themselves after alien and indigenous plant concepts were discussed. The group then presented their group work which they prepared after the fieldwork to the rest of the class:

> Learner: Outside we have observed that there are two different types of trees indigenous and alien plants. Indigenous plants are trees from here and Alien plants are introduced. They may be introduced by birds. Examples of alien plants are: Tickberry; Black Wattle; Wild Banana; Prickly Pear. We observed different types of grass namely: Red top grass and reeds. Reeds show that the quality of the water is good. They have roots nets to clean water so that fishes and animals can breathe properly. They prevent siltation and pollution. When the water is polluted plants and animals die and spoil the quality of the water (OB2:56- 64).

Interviews: In the interview with the facilitators they commented on the knowledge of the learners. I2:6 indicated that the learners had a background in environmental issues. “They know their trees, animals and plants but they know them in the mother-tongue.” He indicated that they even know the traditional uses of some plants. (I2:63) He said, “even us facilitators can learn something from this group of learners.” (I2:64). This indicates that not all the knowledge or content available in a skills training programme is in the unit standard or the learning materials, but that the learners too are a source of knowledge.

Focus Group: From the focus group interview data it was clear that the learners indicated that they have learned a lot of content and concepts from the skills training programme. Some examples of how they reflected on their learning are presented below as extracts from two of the focus groups:

Example: Focus Group Day 1

> Question: What did you learn in class today?
> Learner 2: Learned about the importance of environment – kukongiwa kwendalo- isetyenziswe indalo kodwa isetyenziswe kakuhle ukuze incede nabezayo (Sustainability) resources in the environment can be used but not to the finish so that even the future generations can see and benefit from them.

Example: Focus Group Day 3

> Question: What did you learn in class today?
> Learner 1: learned about indigenous and alien plants
> Soil erosion and the causes of soil erosion and how the alien plants are a threat to the environment
> Question: They are a threat to whom?
> Learner 2: They are a threat to nature and the environment
> Question: How are they a threat?
> Learner: They cause soil erosion, decrease the quality of the water, reduce our ability to farm, and increase fire risk.

Analysis of all three focus groups indicated that learners had learned the following range of concepts and content: The meanings of alien and indigenous plants, types of alien and indigenous plant, threats of alien plants, how to create relationships between officials in the reserve and the communities around them, preservation and conservation and the differences between the two, importance of communication, sustainability, conservation of resources, extinction of plants and animals, ecology, ecosystems, natural resources, tourist attractions, indigenous and alien plants, soil erosion, importance of communication between nature reserves officials and communities around them, conservation awareness, different types of trees and their uses, causes soil erosion and controls (OB1:85-88 ; OB2:4-18; OB3:1-11) (see Table 4.5 below for a summary of what they learned).

Summary: Content and concepts anticipated, and actually learned

Drawing on the observation data *and* the data from the focus groups, I now summarise what learners actually learned in relation to what they were expected to learn in terms of content and concepts by comparing what was actually learned with what was anticipated in the unit standards.

Table 4.5: Content and concept analysis showing what the unit standards Intended learners to learn, and what they actually learned (as identified in observation and focus group interview data)

	Content in Unit Standard	**Content actually learned**	**Concepts in Unit Standard**	**Concepts actually learned**
Unit Standard 8416: Understand and apply personal values and ethics.	Knowledge of own value system Knowledge of human rights Knowledge of what constitutes and ethical issue Knowledge of different responsibilities for rights Employee rights Knowledge of what	Discussion of the meaning of right and wrong Right and wrong are influenced by the background learners Knowledge of values and	Values Ethics Human Rights Ethical issues Rights and Responsibilities Employee and employer rights and responsibilities Diversity in values and ethics Conflict	Ideas of right or wrong Values Conflicting values Fauna and flora Extinction Conservation awareness Conservatio

	constitutes a value conflict Knowledge of conflict management History of own values and ethics	where they come from Understanding of conflicting values Conflicts between communities and game reserves How conflicts between communities and nature reserves can be managed How nature reserves can assist communities around them The new approach to conservation against the old approach to it. Benefits of communities from nature reserves around them	Values change Personal values Relationships	n Ecology Community levy
Unit Standard 8331: Combat soil erosion	Soil erosion techniques Conditions under which circumstances techniques work best Remedial actions Rehabilitation and systems of remediation Ecological principles Causes of soil erosion	Understanding of the meaning of sustainability in relation to conservation Definitions of ecology and ecosystems Explanation of different types of ecosystems(Water and	Soil erosion (causes, signs) Remedial action Rehabilitation Systems of remediation Ecology	Sustainability Ecology Conservation Ecosystems Resources Man-made resources and natural resources Tourist attractions Soil erosion

	Signs of soil erosion	mountain ecosystems) Different types of grass English names of indigenous plants Examples of natural attractions Reasons for conservation of resources Soil erosion and cause of soil erosion. Threats and effects of soil erosion to the environment and resources		
Unit Standard 8330	Problem plant species Impacts of problem plants Suitable control methods Advantages and disadvantages of methods of control Tools and equipment needed to control problem plants Area maps Impact and success of interventions	Problem plants and alien plants. Two words used interchangeably Alien and Indigenous plants and the differences between them. Examples of the names of alien and indigenous plants The threats and uses of indigenous and alien plants on the environment. Ways in which	Problem plants Control methods Impact Success Advantages Disadvantages Area maps	Problem plants alien Plants Threats caused by alien plants Indigenous plants Siltation Pollution PH of the soil Effects of alien plants on the environment

		they spoil the environment- reduce quality of water & our ability to farm Increase fire risks		

The table above indicates a comparison of what learners were meant to learn, and what they actually learned (as identified in the observations and the focus group interviews). It indicates that much of what was intended was not covered in the programme. It shows that in Unit Standard 1 some areas were *not* covered, for example human rights issues, ethical issues, rights and responsibilities, employee and employer rights and responsibilities were not discussed. Additional concepts were also introduced like fauna and flora, extinction of resources, conservation awareness conservation and community levy.

In Observation 2 there is less emphasis of the content to be covered on soil erosion. What was covered in soil erosion were the causes of soil erosion, the influence of alien plants on soil erosion and how both soil erosion and alien plants are a threat to the environment. A lot of practical information was not addressed, for example soil erosion techniques, remedial actions, rehabilitation and systems of remediation.

In Unit Standard 3 (problem plant unit standard), the concept of sustainability was introduced. This was not included in the unit standard or the learning materials but was introduced by the facilitator. Additional concepts including the issues of siltation, pollution, ph of the soil, global warming and carbon sinks came up in the discussions. Control methods of problem plants, tools and equipment needed to control problem plants, area maps and success of interventions were as prescribed in the unit standards were left out.

4.5.2 Skills

As indicated above, the unit standards covered a range of content and concepts. However, there was also a focus on skills in the unit standards. I now report on what skills learners were expected to learn, as indicated in the unit standards, and what skills learners actually learned (based on what I was able to observe).

Documents: The Skills Development Act (D2), State of the Nation Address (D3), Code of Good Practice (D4); the DPW phase 2 training strategy for EPWP phase 2 (D5) and the DEA training policy (D6) all emphasize the need to increase the skills of employees in order for them to secure employment at the end of the project. Document (D5: 10-11) for example states that "Training needs to create and develop specialties (specializations) in the project and be aligned to scarce skills. It needs to assist the learners / workers to be able to create self employment and entrepreneurial skills. It should help the workers to obtain employment after the completion of the project" (D6: 2-3). These documents therefore emphasis *entrepreneurial skills and skills for employability.*

As described in Section 4.2 the unit standards also have expectations of learners as far as skills development is concerned (see Table: 4.6) below. I include a column on 'learning assumptions' as the development of skills often requires specific circumstances or modalities to be put in place.

Table 4.6: Skills analysis of unit standards (skills are in italics)

	Skills Unit Standard	Learning Assumptions
Unit Standard 8416: Understand and apply personal values and ethics.	*Reflection* on own values *Analyse* human rights issues in labour relations *Analyse* ethical issues *Identify* value differences *Conflict resolution*	Assume learners have reflective and analytical capacity Assume learners know how to resolve conflicts (i.e. some knowledge needs to

		be in place)
Unit Standard 8331: Combat soil erosion	*Evaluate effectiveness* of interventions *Improve* interventions *Render assistance* in implementing solutions (e.g. planting grass) *Implement remediation strategies* *Report* on remediation strategies *Take long term and short term remedial actions* *Justify* strategies used in terms of ecological principles *Determine* soil erosion causes *Detect* soil erosion sites	Sites and workplaces are available for the practical work required to develop these skills. Time is required for long term and short term strategies to be put in place. Core knowledge is needed (e.g. of alternative techniques, remediation strategies, ecological principles, soil erosion causes etc. see Table 4.5 above).
Unit Standard 8330	*Identify* problem plant species in a conservation area *Apply control methods* accurately and safely *Operate and maintain equipment* *Record keeping (using area maps)* *Assess impact and follow up.*	Access to workplace learning site (conservation area) Equipment needed is available Prior skills for reading and using area maps are in place Core knowledge is needed (e.g. different problem plants in a specific area, control methods, how to use equipment, impacts etc. see Table 4.5 above)

From the above, it is clear that a few important conditions for learning skills need to be in place, most notably access to the workplace site (a conservation area), and that time is needed to practice the skills. In some cases, equipment is also necessary, and the successful learning of the skills is also dependent on core content and concepts (see Section 4.4 above).

The materials are less focused on the development of practical skills, and tend to focus more on skills such as analysis and interpretation of concepts; exchanging and presenting content and concepts in groups; engaging in dialogue; answering questions; making presentations, charts; and reading and interpreting visual representations of the issues and situations that need to be dealt with (see Table 4.2 in Section 4.2).

Observations: Observation data showed that the learners were mastering a number of skills in the training sessions, for example: reasoning skills and decision making skills. They learned to make judgments in situations and at the end make decisions. They showed mastery of observation skills. They learned an ability to work in groups and share information.

An example of their abilities to reason, make judgments of situations and make decisions is shown in the data extract below:

> Facilitator asks: What will you do? The manager discovers that some of the plants have been snatched from the game reserve. You are staying in the community and you need to know the people doing those things.
> Facilitator: Most of the plants in the EC are at the verge of extinction. They have been put in the list of red label plants. What will you do?
> Learner responds: I will not report. If I report my life, my family, the plants and the animals in the reserve as well as my job will be at stake. I shall try another plan. I shall organise meetings with my community. I shall talk to them about the importance of the different types of plants in the reserve and their uses, now and in the future; from that they will learn that it is important not to remove the plants.
> Another learner responds: What will you say to the Manager, then because the Manager is saying the plants has been snatched now? What about your job?
> Another learner joins in: This is not new, before the erection of the reserve the community was called together.

In the illustration above the learners are learning to reason and make judgments. They also make value judgments on what should be done and what should not be done. What is of value to me and what would be of value to the

community as a whole? After weighing the conditions, and engaging with the deliberation above, the learner makes a decision that he will not report the community snatchers he will engage them in a dialogue.

To strengthen some of the practical skills development intentions of the unit standard (as shown in Table 4.6 above), the facilitator took the learners out for fieldwork. In the field they observed plants and trees. What they have observed is indicated in their presentations (see extracts below). They stood in front of the rest of the group and gave presentations to enhance their presentation and public speaking skills. Some examples of the group presentations are included here to illustrate what skills were learned:

Observation 2, Group 2:

> Learner: Outside we have observed that there are two different types of trees indigenous and alien plants. Indigenous plants are trees from here and Alien plants are introduced. They may be introduced by birds. Examples of alien plants are: Tick berry, Black Wattle, Wild Banana, and Prickly Pear. I also observed different types of grass namely, red top grass and reeds. Reeds show that the quality of the water is good. They have roots nets to clean water so that fishes and animals can breathe properly. They prevent siltation and pollution. When the water is polluted plants and animals die and spoil the quality of the water (OB 2:56-63)

This shows that the learner has learned to differentiate between and identify different plant species, and to identify alien invasive species in a particular conservation area, as shown in the skills development expectations in Table 4.6 above.

Observation 2, Group 3:

> Learner: We observed our natural resources. Indigenous plants prevent the soil erosion process. In the river there are reeds. Reeds help to protect the fish during siltation. Saw red top glass and alien plants, Alien plants e.g tick berry, prickly pear, black wattle is used for wood and fuel in our homes. 'Umchakuva' is a medicine for animals, cattle and sheep while they are sick. 'Isihlobotshane' – useful for its fruit. It bears fruits

which become red while ripe. Reeds – used for 'ukufulela' (thatching the roofs of huts). Protect dirt from reaching the water animals at the time of siltation (OB2:64-69)

This shows that learners are able to differentiate between and identify different plant species and to categorise them as alien or indigenous. It also shows that they are able to bring their own experience of plant uses to the training programme, and relate what they have learned to what they already know.

However, most other activities involved various classroom activities where learners were instructed to work in groups and come up with answers to report back to the group. The emphasis was mainly on learning the content and concepts, and not on the application or practical skills as required by the unit standard. This can be explained by the fact that the time on the course is only a portion of time that is needed to acquire the skills (e.g. a 3 credit unit standard requires 30 hours of learning, and the training programme for that unit standard that I observed only used 8 hours or 1 day). The expectation was clearly therefore that the rest of the skills would be developed in the workplace. Because these learners were not working in the project, this posed a serious problem for skills development as the learners did not have the context of application or the time allocations for learning the skills, nor did they have access to the equipment needed for them to learn the skills. The example below shows the emphasis on content and concepts, with little attention given to the practical skills of using equipment to for example remove the alien plants (which the learners would have gained if they were working in the EPWP programme, as expected).

Example of activity on threats caused by Alien Plants:
Group B gives information on threats caused by alien plants, as:

- Increase the siltation of dams and estuaries
- They use 7% of SA' s water
- Increase the extinction of indigenous plants and animals
- Absorb a lot of water and leave the animals with no water
- Cause soil erosion

- Reduce our ability to farm

Facilitator then asks questions to the group

> Facilitator: What is siltation?
> Answer: (kuncipha amanzi kwande udaka) the water decreases and mud increases
> Question: How do alien plants increase that siltation of dams/ that mud?
> Answer: They absorb a lot of water and the amount of water decreases. (OB3: 32-39)

Focus Groups: In the focus groups the learners emphasized the need for development of communication skills as they will hold meetings with communities (FG1: 24). One learner noted that they had learned the importance of standing in front and talking to people (one need speak loudly, do not touch the face and the mouth) (FG2:24). Another learner agreed and said "yes we learned the importance of standing in front and talking to the people/public. Learned that we need to speak loudly/ voices need to be audible. Not put hand on the mouth and face". This shows that this skill was seen to be useful to the learners as shown in the data extract below:

> Question: How was this knowledge useful to you?
> Learner: Realized the importance of speaking, reading and writing skills.
> Question: What did you learn in fieldwork?
> Learner: We shared with the facilitator our own traditional uses of the plants. (FG2:26)

As the learners were not working in the EPWP programmes, I was not able to follow up with workplace observations to see if they had learned, or were able to apply the skills that were expected of them in the unit standards. In the observations they managed to learn content and concepts in the unit standards. They also gained the social skills like identifying plants, working in groups and making presentations. What they did not learn are the practical skills that would enable them to work better in the nature reserves and the EPWP, for example, they were able to "implement systems of remediation and report on them" as expected in Unit Standard 8331 on Soil Erosion; unable to show their ability to "keep records of areas treated by means of a recognized

method" as expected in Unit Standard 8330 and neither the learners, nor the facilitators commented on the wide range of skills they needed to show competence in for the full achievement of the unit standard. The equipment they needed to practice on to assist them to work better was not brought to class.

Interviews: The facilitators tended to concentrate on *learning skills* in the discussions on skills. They indicated that the levels of the workers/ learners English literacy skills were low. "It does not match with what it is supposed to be" (I1:16). The second facilitator mentioned, "They have low qualifications and low educational skills. He said it is like as if they have not matriculated"(I2: 30). The classes had a mixture of the young and the old which according to the facilitators was detrimental to their learning. "Some had been out of school for a long time while the young ones has just gone out of school." The facilitators commented that the difference showed in their English communication and literacy skills. Only one of the facilitators pointed out a need for practical skills to promote better learning (I1:35), and this was only pointed out once, *despite the fact that the unit standards required substantial practical skills* as outlined in Table 4.6 above.

Summary: Skills learned

The skills analysis of the unit standards outlined in Table 4.6 above shows that there are high expectations that learners will gain a range of workplace relevant skills of a practical nature for example:

- Implement and evaluate remediation interventions
- Evaluate the effectiveness of interventions
- Render assistance in rehabilitation programmes
- Operate and maintain equipment
- Apply appropriate control methods safely
- Keep records using area maps

As indicated in the table, various assumptions underpin these skills development demands contained in the unit standard, most notably that learners need also to be workers so that they can learn 'on the job', and that time and equipment needs to be available, *in addition to* the knowledge. It would seem that in this Skills Programme, the emphasis was on *learning and communication skills,* rather than on the *practical skills for doing the job*. Even the fieldwork in this skills training programme was oriented towards learning concepts and content, and not so much oriented towards the practical skills for the job. The workplace is therefore an important 'ingredient' for successful acquisition of the competences required for successful completion of the unit standards. Training workers that are not working would therefore seem to be highly anomalous and inappropriate given the policy and practice intentions of the EPWP training component and its assumptions.

4.5.3 Values

Documents: The training programme also had certain values expectations. The documents D1-6 clearly expected learners to develop and value being employed (i.e. a work ethic) as shown in the citations above. The unit standards also had values expectations as shown in Table 4.7 below:

Table 4.7: Values learning expectations in the unit standards

Unit Standards	Values learning expectations in unit standard
Unit Standard 8416: Understand and apply personal values and ethics.	Identify values embedded in own practices Human Rights values in labour relations Conservation ethics Rights and responsibilities Respect for others' values and points of view
Unit Standard 8331: Combat soil erosion	Conservation of soil (conservation values) Effective practice values
Unit Standard 8330: Combat problem plants	Plant, biodiversity and water conservation (conservation values) Health and safety

	Efficiency and effectiveness

The materials reflected engagement with the above values. Through the proposed methods and activities the materials also seemed to value inter-group communication, meaning making and dialogue.

I now discuss some of the values that emerged from the actual training, based on observation and focus group interview data.

Observations and Focus Groups: The following values were relatively 'tacit' and implicitly came up in the data: caring, equity, respect for people's dignity and respect for all languages. Learners on the programme learned about the importance of treating the communities around the park as co-owners and co-workers with them in the park, providing a people-centred conservation values framework which was perhaps not as apparent in the unit standards, except in Unit Standard 8416 which emphasized human rights approaches to dealing with values in the workplace. Learners learned that they needed to consult with community members, and give them respect as they respected themselves. This is reflected in some of the data extracts shared below:

> Learner 5: People of the community will have a problem with me. They can also harm my family but I need my job. I need my income, I need the plants, nature and the trees in the game reserve (OB1:74-75).

Initially I observed that this learner was egocentric, and she put herself first in whatever was discussed but through discussions her value system was changed. She stopped seeing the communities as thieves to be taken to jail but as co-workers with the officials in the park to promote sustainable use of resources.

> Learner 6: I will not report. If I report my life, my family, the plants and the animals in the reserve as well as my job will be at stake. I shall try another

> plan. I shall organise meetings with my community. I shall talk to them about the importance of the different types of plants in the reserve and their uses, now and in the future; from that they will learn that it is important not to remove the plants (OB1:78-80)

The response of this learner shows a different value system altogether. He is tolerant and prepared to negotiate until a compromise is reached for the good of the conservation of resources.

The development of these values was scaffolded by the facilitators, who reflected a concern for a people-centred and sustainability oriented approach to conservation, as shown in this extract from the data below:

> Facilitator : We need to teach the people about conservation- conservation does not mean not to use but means wise use of natural resources so as to ensure sustainability for income generation and future generation. We do this to generate income and to protect our wildlife (OB1:87-88).

This dialogue also shows the people-centred, sustainability oriented conservation values system being promoted and foregrounded in the skills training:

> Learner: can you explain sustainability?
> Answer: We are using natural resources cleverly Siyayonga (we keep it so that it has a consistent resistance)
> Researcher: Why then do we have Mthamvuna Reserve?
> Student: it has been erected so that we can conserve the plants and animals in it so that even the future generations can see them.
> Facilitator: It is also erected for community levy; and income generation to assist the communities with money for crèches and projects in the community. What is important is that communities need to appreciate the conservation facility/reserve so that in future it can help (OB1:91-92).

This value system clearly accords with the value system promoted by the post-apartheid environmental policy framework which promotes co-management and co-benefits with communities, which is specified in the NEMA: Protected Areas Act of 2003.

Focusing more on the values embedded in the training process and interactions, I noted that the programme valued diversity of language and knowledge. Though the materials were in English to accommodate the learners the facilitator kept on translating into their mother tongue. In class he discussed the names of indigenous trees with them in English, they went out for fieldwork and the learners realized that they knew the names of the trees but in their mother tongue. There was an exchange of information on indigenous trees between the facilitator and the workers, which shows how the diversity of language and knowledge was valued in the skills training programme, as shown in the extracts below:

> Learner 3: We shared with the facilitator our own traditional uses of the plants….
> I learned the English version of the trees from the facilitator; when we went out I realized that I knew them but in the mother tongue so going outside to the field helped me. (OB2: 19-22)

They gained the English names of trees from the facilitator while the facilitator picked up the traditional uses of trees from the learners (FG2:18) (I2:63). They learned that they need not only be concerned about now but also about future generations.

I also observed learners showing elements of change in attitudes, as shown by these extracts from the focus group interviews and observations:

> Learner: I must not start by reporting the problem to the police; I must start by discussing issues with communities. (FG1:6);
> Learner: Instead of alien plants we must plant indigenous trees. (FG3:36).
> Learner: I will never plant alien plants again. (FG3: 31)
> Learner: Alien plants must go home they are spoiling our water quality and quantity. (FG3:34)
> Learner: Communities need to appreciate the activities of the reserve so that in future it can help their children. OB1:93

From the above, if reviewed against the values expectations in the unit standards as outlined in Table 4.7 above, it seems that the values expectations of the unit standards were met in the training, except for the values related to practical activities which focused on efficiency and effective practice.

4.6 HOW LEARNERS LEARNED IN THE EPWP SKILLS PROGRAMME

As indicated in Chapter 1, the third research question guiding this study was an interest in how learners learn in the EPWP Skills Programmes, and particularly in the instance of this case study focusing on the Conservation General Field Assistant Skills Programme. To analyse how learners were learning, I developed a set of sub-categories from the data, as explained in Chapter 3. These are : educators roles, actions and practices (see Section 4.6.1); learners' responses, actions and practices (see Section 4.6.2). I initially also planned to use interactions and assumptions as additional categories (see Chapter 3), but found that most of the points had already been covered, hence only focusing on these two categories in this discussion. I discuss each of these, once again drawing on the different data sources.

4.6.1 Educators' roles, actions and practices

Document analysis of policy documents: Document analysis revealed that the roles of educators are not clarified in policy or training documents. What is indicated is the fact that the training must be conducted by accredited providers which means that everybody working in the company, the facilitators and the assessors, must be certified competent in what they are doing by the SETA. The facilitators and the assessors must be specialists in the fields they are facilitating and assessing on. The unit standards also do not provide specified descriptions of the roles of the educators, but through inference one can extrapolate what the educators roles, actions and practices *ought to be,* as

outlined in Table 4.8 below, and see Section 4.2. I include an additional comment which, drawing on the description in Section 4.5 above indicates which roles, actions and practices the educators seemed to have fulfilled, and which were not fulfilled.

Table 4.8: Inferred roles, actions and practices of educators based on Unit Standard Analysis

	Inferred roles, actions and practices of educators	Achieved / Not Achieved
Unit Standard 8416: Understand and apply personal values and ethics.	Provide learners with information (content and concepts)	Yes
	Provide learners with opportunities to reflect on own and other values	Yes
	Provide learners with interaction opportunities to deal with value conflicts between themselves and another person	Partially
	Assess learners' values as required in the Unit Standard	Partially
Unit Standard 8331: Combat soil erosion	Provide learners with information (content and concepts) relevant to the practice of combating soil erosion	Yes
	Structure learning activities so that learners can evaluate effectiveness of different approaches to combating soil erosion	Yes
	Structure learning activities so that learners can implement systems of remediation and report on them	Not achieved
	Assess shorter and longer term remedial actions taken by the learners	Not achieved
	Assess learner achievement against unit standards	Partially
Unit Standard 8330: Combat problem plants	Provide learners with information (content and concepts) relevant to the practice of combating problem plants	Yes
	Structure learning activities so that learners can identify and list plants in an area of operation	Yes, through fieldwork
	Structure learning activities so that learners can apply control methods accurately and safely	Not achieved

	Structure learning activities for learners to operate and maintain equipment used in the control of problem plants Structure learning activities that allow learners to keep records of treated areas and follow up procedures. Assess learner against the unit standard	Not achieved Not achieved Partially

As indicated in the table above, for learners to be successful in the unit standards, educators need to provide content and concepts, and structure learning activities so that learners can understand these concepts. This was well achieved in this skills programme, as shown by the data discussed in Section 4.5 above. However, educators also need to structure learning activities that allow for practical application and skills development, which was not well achieved due to the lack of work opportunities for learners who were doing the EPWP training programme.

The Learning Materials, reflect the educator as an expert and a facilitator of learning with responsibility to instruct and guide the learners to perform certain tasks and activities (DLM2:8). The educator is assigned the responsibility for introducing topics as shown in this extract from one of the learning materials:

> Extract from Learning Material: **Teacher read from the learner book:** "You have to make decisions. Decide what is right or wrong. What to remember is that you need to live with the results of the decisions you make. You must be honest with yourself why you made that decision. You need to know yourself so that you know why you do certain things. You need to be sensitive to your need and those of the people around you" *[the text that the teacher is meant to read at the start of the lesson]* (DLM1:9).

The learning materials then provide structured guidance as to how the facilitator should organize the interactions between learners. It structures the

facilitator as someone who must divide learners into groups, and then lead the discussion, asking questions as necessary, as shown in this extract:

> Extract from Learning Material: "Facilitator instruct the learners to turn to page 212 of the learner guide. Learners must form pairs and read the dialogue to each other. Learners read aloud the dialogue in page 212 which reads: "Visitor: what are problem plants? Conservationist: Problem plants are the same as alien plants. Visitor: Alien? What like aliens from space? Conservationist: No, not at all, not those aliens, alien plants! We look at the green world out there and say plants …… they are all the same but they are not!" (DLM:3)

The text in the learning materials also expect the educator to participate in discussions and act as an adjudicator in class competitions and activities (DLM3: 4-5), as shown in this extract below:

> Extract from Learning Materials: "Learners complete the tables listing the differences between natural soil erosion and accelerated soil erosion. Show learners pictures of soil erosion sites" (DLM3: 4-5).

> Extract from Learning Materials: "Learners prepare a choral presentation on alien plants. The title of the song to be GO AWAY ALIEN Plants. Facilitator adjudicates the songs" (DLM2: 3-4)

Educators are also expected to bring along stimulus materials e.g (dialogues, case studies etc.) to inculcate a participatory environment amongst the learners as shown in these extracts from the Learning Materials:

> Extract from the Learning Materials: " Facilitator should let learners read the following dialogue. Learners should read the dialogue twice and take turns to read each part The dialogue is between the visitor and a conservationist. The dialogue is introducing the learners to what the alien plants are. At the end of the dialogue the conservationist explains what alien plants are and how they are a threat to the environment" (DLM2: 1-6)

> Extract from Learning Materials: Arrange the learners in partners to read a case study about Bonginkosi a conservationist in a nature reserve.

"Bonginkosi is a conservationist at a nature reserve. He is one of the lucky ones as unemployment is very high in the area. He has been doing this job for a year now. The reserve is home to many natural flora. His job involves taking guests on walks around the reserve and giving talks on the natural flora. He knows that it is illegal for anyone to pick up any natural flora. The flora is part of the natural heritage of the area. There are heavy fines for anyone caught picking or damaging the flora- they may even go to jail. Over the past weeks the management has noticed that certain protected plants have been removed. These plants are sold to interested parties. The management has asked Bonginkosi to correct the situation. They are sure that some of the local people living just outside the reserve are involved. Bonginkosi also lives amongst the local community. During his investigation, he has been accused of turning his back on the needs of his community for enforcing conservation law. Last night his family was threatened. He is very upset because he does not know what to do"[text of case study] Discuss and answer the questions based on the case study" (pg. 61. Learner work book)

Observations: In the observations of the lessons it was apparent that the educators are seen as experts, and they have a responsibility to explain phenomena and concepts (OB1:1-3 ; OB3: 42- 45), as shown in the extracts from the data below. What is also clear is that facilitators use a variety of strategies to make concepts and content clear to the learners, as these extracts from observation data show:

Facilitators explain concepts, as shown by these extracts:

Facilitator explaining ethics: It is the idea of right and wrong. Everybody has a different idea about right or wrong. It may be caused by his background and where he grew up. They start by what we do. (OB1:1-3)

Facilitator explains how alien plants are a threat to the environment: Alien trees form a dense cover. Sunlight is unable to infiltrate through these dense leaves. The vegetation below the trees dies. The soil is exposed to the sun and loses its texture. Soil erosion takes place. Water carries the silt to the rivers and dams. The amount of mud increases. Kills the indigenous and water animals as they are adapted to stay in water not in mud. They produce fumes which increases the fire blazes in winter. They disturb the PH of the soil (OB3 42-45)

Another strategy used by the facilitator to mediate and transfer content and concepts is reading from learner books as shown by this extract from an observation:

> Facilitator reads from the learner book: You have to make decisions. "Decide what is right or wrong. What to remember is that you need to live with the results of the decisions you make. You must be honest with yourself why you made that decision. You need to know yourself so that you know why you do certain things. You need to be sensitive to your need and those of the people around you" *[text read by the facilitator]*. (OB1:4-9),

Another role played by the facilitator during the skills programme was as an interpreter of English phenomena and translator of problematic words into the learners' mother tongue when learners did not understand (OB1:6; OB3:43), as shown by these extracts below:

> Facilitator: "Let us look on page 60 there is a picture of two men. They are hitting each other using their heads. That shows that they do not agree- *bangqubuzana ngemibono* – their ideas are conflicting – their values do not agree" (OB1: 5-6).
>
> Facilitator: "The alien plants (*ziyaminyana*) become dense. The plants that bind the soil die as they do not get enough sunlight. The soil become exposed to the heat of the sun"(OB1: 5-6).
>
> Learner: "Can you explain to me, I do not understand sustainability:"
> Facilitator: "*Kukusetyenziswa kwendalo, kodwa yongiwe ingagqitywa*.(It is the use of resources conserving it so that it becomes available even tomorrow and in the future." (OB2: 15-16)

Facilitators also explain phenomena by means of examples and illustrations, as shown in these extracts from the observation data:

> Facilitator makes an example. "I grew up in the rural areas of Kwa-ZuluNatal. In KZN the women are not allowed to stand up and speak in community meetings. They have no freedom of speech. Now an elderly father from that back ground goes to a meeting in Johannesburg. There

> is no such thing in Jo'burg . The women stand in meetings and talk. They have a freedom of speech unlike in KZN. He is shocked. We call these things ethical dilemmas one needs then to be sensitive to the needs of others and do not do things that will harm them and the environment. One needs to consider what value conflicts are there, consider possible choices, whatever decision you make be sure that you reason" (OB1: 10- 18).

I also noted that facilitators make use of metaphors to clarify some issues. (OB1:6- 7)

> Facilitator: "Let us look on page 60 there is a picture of two men. They are hitting each other with their heads. That shows that they do not agree- bangqubuzana ngemibono – their ideas are conflicting – their values do not agree" (OB1: 6- 7).

Facilitators also lead the discussions with questions and case studies. They engage the learners in serious dialogues and give them the chance to think, as shown in these data extracts:

> Facilitator: "Think as if you are BongiNkosi. Put yourself in BongiNkosi's shoes. You are hired in Mtamvuna game reserve and the things which happened with Bonginkosi happens with you. You grew up in this community you have been picking up the plants and hunting the animals in the reserve. There is lack of employment and you are fortunate enough to get employment in the reserve. You need to protect the plants and animals. The people will see you as Impimpi (sell out) that now you teamed with the White people against us. What will you do? The manager discovers that some of the plants have been snatched from the game reserve. You are staying in the community and you need to know the people doing those thing. What will you do" (OB1: 40- 46).

Given the little time allocated for the training (3 days for 3 unit standards worth 110 credits) the facilitators nevertheless took the learners out for fieldwork as discussed in Section 4.5 above. They also structured this learning so that learners could present their work afterwards, and I observed that during this process the facilitators also assisted the learners to correct wrong or incomplete information as shown by this extract below:

> Learner Group presentation on problems caused by alien plants: "They use 7% of SA 's water, reduce our ability to farm, increase destruction of rivers, increase fire risk, increase the siltation of dams and estuaries, decrease the quality of water."
> Question to group: "How do they do all the things above?"
> Group: No answer.
> Facilitator takes over and explains how alien plants are a threat to the environment: He explains: "Alien trees form a dense cover. Sunlight is unable to infiltrate through these dense leaves. The vegetation below the trees dies. The soil is exposed to the sun and loses texture. Soil erosion takes place. Water carries the silt to the rivers & dams. The amount of mud increases. Mud kills the indigenous plants and water animals as they are adapted to stay in water not in mud. Alien plants produce fumes which increases the fire blazes in winter. They disturb the PH of the soil."

Interviews data drawn from the interviews with the facilitators show that the facilitators reflect on their broader roles which include planning and assessment. They also mentioned the role that they play in interpreting concepts and content into the mother tongue, as shown in this extract from the interview with Facilitator 2:

> Facilitator 2: "My class is a mixture of old and young people. The old have been out of school for a long time and the old people do not understand English**.** I take a bit of time interpreting. The young ones have just come out of school and the gap is big between them. The materials are written in English. Every time I have to assess their level of understanding. I have to interpret into mother tongue. (F2:27-32)

The facilitators also reflected that they had to adapt learning materials to suit the level of the learners, and that they have to put considerable effort into interpreting, explaining, asking questions and arranging learners into groups as shown by this interview extract:

> Facilitator 1: "Their level of literacy is low- It does not match up with what it is supposed to be. Even if you adapt the materials and go down to a low, low, level they battle. A few of them are coping and understand what the programme is about.

> Question: How many do you think are coping?
> Facilitator: I can say 6 out of 10 are coping. (F1:10-20)
>
> Facilitator 2: I am trying to change and mix their groups on a daily basis. The old and the young. I try and change groups. Do not want to put those who do not understand alone.
> Facilitator 1: For them to learn better the facilitator need to do a lot of explaining, interpretation and engage them in a lot of activities before the lesson They also learn from other learners (I2:57)

.

The learners in the focus groups did not have much to say about the role of the educators, but they did comment on the fact that they learned a lot from the facilitators, and that they appreciated learning the English versions of the names of plants, trees and animals from the facilitator.

Summary: From the above range of data sources, different perspectives on the roles, actions and practices of the educators emerge. The document analysis shows that educators are focusing mostly on the mediation of content and concepts, and on development of learning and communication skills. They are not focusing on the practical application skills needed for skills development in the workplace. The learning materials analysis shows how the educator is positioned as a facilitating expert, with specified tasks and pedagogical strategies to use in the training. The observations show that the educators are expert facilitators and that they use a range of different strategies such as explaining concepts, asking questions, stimulating dialogue, using case studies and examples, and translating concepts as strategies to mediate the content and concepts that they are concentrating on. The interview data shows that educators have other roles, namely planning, adapting materials and translating and interpreting concepts and content to suit the level of the learners.

The role of the educator, the educators' practices and actions are clearly an important 'definer' of what learning will and can take place, as are the learning materials, as shown in the analysis above. In the context of this case study,

these two factors seem in fact to be more powerful or at least as powerful as the unit standards in defining how learners will learn.

4.6.2 Learners' responses, actions and practices

To develop a fuller understanding of how the learners were learning, I also analysed learners' responses, actions and practices, drawing on the same sets of data which I report on below.

Documents: The policy documents do not describe how learners should learn, but they rather describe the outcomes of the learning e.g "Learners need to develop abilities that would lead to self employment and develop entrepreneurial opportunities" (D6: 16 ; D6: 17). The manner in which these need to be developed are not clarified**.**

The unit standards on the other hand provide very specific information on the learners roles and what they are expected to do, as described in the actual unit standards in Section 4.2. I summarise the main expectations of learners roles, actions and practices here in Table 4.9, with a similar analysis of whether these have been achieved or not, based on the findings reported in Section 4.5. Note that this is a general review, and is not disaggregated to the level of individual assessment analysis.

Table 4.9 Inferred roles, actions and practices of learners based on unit standard analysis

	Inferred roles, actions and practices of learners	Achieved / Not Achieved
Unit Standard 8416: Understand and apply personal values and	Learners must know key content and concepts relevant to values and ethics (as discussed in Section 4.5 above) Learners must reflect on own and other values Learners must deal with value conflicts between	Yes Yes Partially

ethics.	themselves and another person	
Unit Standard 8331: Combat soil erosion	Learners must know key content and concepts relevant to combating soil erosion Learners must evaluate effectiveness of different approaches to combating soil erosion Learners must implement systems of remediation and report on them Learners must assess shorter and longer term remedial actions taken by themselves	Yes Yes / partially Not achieved Not achieved
Unit Standard 8330: Combat problem plants	Learners must know key content and concepts relevant to the practice of combating problem plants Learners must identify and list plants / problem plants in an area of operation Learners must apply control methods accurately and safely Learners must operate and maintain equipment used in the control of problem plants Learners must keep records of treated areas and follow up procedures.	Yes Yes, through fieldwork Not achieved Not achieved Not achieved

From the above, there is a clear link between what the educators did (the learning opportunities they created), and what the learners were able to achieve in the training.

The Learning Materials present the learners as active participants in learning. They are expected to perform a number of activities. They are expected to discuss their understanding of meanings of terms and concepts in groups, and they are required to represent their understanding in various ways (e.g. on charts, through presentations, through writing up what they have discussed, and through choral presentations – amongst others) as shown by these extracts below.

> Extract from Learning Material: "The groups discuss their understanding of and the meaning of the word ethics. Activity groups need to discuss the right things to do and wrong things to do (DLM1: 1- 4)
>
> Extract from Learning Material: "Learners to discuss the possible threats posed by alien plants in groups" (DLM:2)
>
> Extract from Learning Material: "Learners to enlist threats of alien plants on the spider web diagram. Add the impact of alien plants into their chart"; and "Learners to prepare a choral presentation on alien plants. The title of the song to be GO AWAY ALIEN Plants" (DLM2:12)
>
> Extract from Learning Material: "After discussing it they need to write down their groups' definition on a piece of paper. After discussing they need to write the right things and the wrong things down" (DLM1:2)

Learners are also expected to read through materials (sometimes more than once), and to improve their reading skills and their comprehension skills through various reading activities as shown by these extracts from the Learning Material:

> Extract from Learning Materials: Learners are arranged in partners to read a case study about Bonginkosi a conservationist in a nature reserve. Discuss and answer the questions based on the case study" (DLM1:11)
>
> Extract from Learning Materials: Learners to read the dialogue twice and take turns to read each part. The dialogue is between the visitor and a conservationist. Read the activities published by the department of water Affairs. Read the categories of alien plants (DLM2:1&6)

From the above, it is clear that the learning materials structure the learning opportunities in particular ways i.e. by encouraging group interaction, reading, presentations and so forth. It is notable that the materials *do not* encourage the development of the practical workplace skills of implementing systems of remediation, or operating and maintaining practical equipment as the

emphasis on learning content and concepts appears to have dominated the entire training process as already mentioned above.

The observations reflect a similar pattern. Learners were engaged in the kinds of activities required by the Learning Materials (as described in detail above). Learners read aloud from learner books; they asked questions of the facilitator when they did not understand; they asked for meanings of terms and concepts in the mother tongue. They also participated in discussions that led to decision making (OB1: 54); and they discussed issues until they were able to come up with decisions. They expressed concerns and gave reasons for their disagreements. They learned from their interactions with other learners, and they learned from the facilitator. They learned in groups. They also went out to the field to identify plants and animals. They prepared presentations and made presentations in class (OB2: 53-64), and they showed enough confidence and ease in the learning process to share information on the names of plants and their uses with each other and with the facilitator (OB2:64-70).

This provides a picture of a richly interactive learning environment in which diverse strategies were used to facilitate learning. It also shows that learners responded well to this learning environment and that they were able to learn new things. It is a pity that this rich learning environment could not be extended to the workplace for the learning of the workplace skills, as intended by the EPWP training programmes and policies, and the unit standards themselves.

Interviews with the facilitators did not shed light as to why this was the case. Instead they continued to reflect on the micro-environment of learning, focusing on the learner interaction, participation and grasp of language, concepts and content, as exemplified in the data extracts below:

Facilitator 1: “The participation of learners in groups is good. They are eager to learn and 98% of them are participating (I1:21.)
Question: How do you know that they are eager to learn?
Facilitator 1: They ask a lot of questions and interact a lot with me” (I2: 45-46)
Facilitator 2: “Participation in groups is what is helping them to learn” (I2:36) “Though some have been out of school for a long time they like to participate in learning activities” (I2: 36-37). “The only disadvantage is that in the groups some hide and do not interact” (I2:60).
Facilitator 1: “Interactions in pairs are a little bit problematic. I cannot pair those who do not understand together. As facilitators we pair the one who are coping with those who have problems. Those who are coping feel that their time is wasted” (I1: 22-23)
Facilitator 2: “The participation of those who has just come out of school is cool; they work well” (I2:38) “They are excited about practical and eager to learn new things.(I2: 37) They struggle with English – have to interpret to mother tongue – learn well when interpretations are made.” “They know their trees animals and traditional uses of plants but in mother tongue. They can teach us better things; we can also learn from them” (I2:63)

Focus groups data showed signs of a shift in practice amongst learners, from preservation to conservation. They reflected that they had come to realize the importance of communication with communities. (FG1:4) They also reflected on sharing their traditional knowledge – names of plants, and their uses with the facilitator (FG2:20).

They also learned English names of trees from the facilitator (FG3:16; FG2; 18) and reflected that the fieldwork assisted them to understand what they know and what they do not know (FG2:22). They indicated that they had learned from each other too, and that they had picked the other names of plants from each other. (FG3:18)

One of the learners raised an issue about the importance of fieldwork and creating opportunities for linking learning with experience when he said “when we went out for fieldwork we realized we know most of the trees the facilitator told us about but with our African names. Gained knowledge around which

plants to cut, which ones to keep/ grow. Will hold advocacy campaigns for indigenous plants in the communities. (FG2:22)

Summary: How learners were learning in the EPWP skills training programme

From the analysis above, it is clear that learners were learning their content and concepts through a dialogical, interactive and socially constituted learning environment where they were free to learn from others, and where the guidance of the facilitators was structured, and appreciated by the learners. Learners also appreciated the interactions and were able to learn from each other and the facilitators, as well as from the fieldwork. Language and the facilitator's willingness to translate concepts to make them accessible appears to have been important in the learning, as were the variety of types of activities. The facilitators put effort into ensuring that everyone was learning, and paired older learners with younger learners to facilitate learning from peers. The analysis above shows the importance of the facilitators' role and the learning materials, but also shows that learners bring knowledge to a learning situation which is equally significant for the learning process.

4.7 CONCLUSION

This chapter provided a detailed analysis of the data, reporting on the findings using a range of data sources. The chapter started with an overview of the unit standards that formed the basis of the training that was observed in the skills programme. It also provided an analysis of the Learning Materials. This provided the background against which the other data gained meaning in terms of what the learners learned, and how they learned. The chapter identified some interesting findings most notably that the skills programme was heavily biased towards the teaching and learning of content and concepts, with less emphasis on the workplace skills that were required by the unit standards, and the EPWP policy context and the purpose of the training. This

chapter has addressed all three research questions, but I interpret them further drawing on theory and the contextual issues discussed in Chapter 2 in the next chapter, where I also discuss the key findings reported on here in more detail.

CHAPTER 5

SUMMATIVE DISCUSSION OF THE FINDINGS, RECOMMENDATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

5.1 INTRODUCTION

This chapter is the concluding chapter of the thesis. I discuss some of the findings of the study reported in Chapter 4 using analytical statements, and through this I summarize and also critically reflect on the main findings of the study. I discuss these findings critically using the lens of situated learning, and I also make recommendations based on the findings of the case study, and highlight areas for further research.

As indicated in Chapter 1, the following goals guided the research:

- To investigate **the context of learning** in the EPWP skills programmes, including the activities, the learning interactions, and the assumptions and practices influencing the EPWP skills programmes (Section 4.4)
- To investigate **what and how workers learn through** participating in environmental skills programmes offered to them in the EPWP / SRP programme (Section 4.4 and Section 4.5)

I was also interested in how the learning would be applied to the workplace. As mentioned in Chapters 3 and 4, these goals were investigated through in-depth analysis of a case of EPWP training, involving three unit standards. Chapter 4

presented the data in the form of a thick description addressing the research goals indicated above. As the EPWP policy and training plans all indicate that the training should lead to further employment and development of workplace skills to enhance employability, in this chapter I draw on theories of situated learning to discuss the findings of the study more critically. As indicated in Chapter 2, Lave and Wenger (1991: 1) argue that learning is a function of "activity, context, and culture in which it occurs". It is this that I consider more critically in this chapter.

5.2 LEARNING IN THE EPWP TRAINING PROGRAMME

As discussed in Chapter 3, the discussion of the data presented in Chapter 4 is guided by a series of analytical statements. I draw on the discussion of the analytical statements, to make recommendations from the study.

5.2.1 Analytical Statement 1: Diverse contextual factors influence environmental learning within the EPWP environmental skills programmes

The context of learning has been one of the foci of this study. A key finding of the research is that diverse contextual factors influence environmental learning within the EPWP environmental skills training programmes, as reported in detail in Section 4.4. As indicated in the discussion on learning theory in Chapter 2, context is a significant determinant of social and situated learning. As noted in Chapter 2, Cornbleth (1990) argued that a focus on context brings the situated nature of learning to the fore, and Falk (2005) extends this argument stating that because of this, learning is neither straight forward nor predictable. I briefly summarise the main influencing contextual factors from the data in Chapter 4, pointing to how they influenced learning in the EPWP programme.

The policy context influenced learning in the EPWP programme, because it fore grounded the need for redress, for providing training for unemployed people and it created the framework for the EPWP training programmes. The policy documents are clear that the training should benefit workers and provide them with skills to enhance employability (as discussed in Section 4.4.1). They are also clear that the workplace should also be seen as a place of learning, or a relevant context for learning. As discussed in Chapter 4, there was a disjuncture between the policy which requires the training to be offered to workers who are *currently working* in the EPWP training programmes, and the training offered in the case study observed, where workers and community members who had *either not worked, or had previously worked in the EPWP*, were being offered training, as indicated by one of the workers who said "*We are not working in the project. I worked for one month I am no longer working"*(FG1). This had a significant impact on the training, as there was no workplace context in which to properly situate the learning, particularly the learning of the practical skills as expected in the unit standard (see Section 4.5.2). This was the result of a community-based decision to share the work amongst community members, and people were given turns to work for a month, as decided by the community forums. The Chairperson of the community forum explained that their community work differently. In this project they are rotating the workers each month. *This shows that it is not always a simple matter to implement a policy and greater attention may need to be given to community-based decision making in policy making and implementation, and also in planning for training interventions*.

The environmental policy context also influenced the training, as discussed in Section 4.4. and brought a stronger people-centred / human rights approach to conservation to the fore, which in turn seems to have influenced both the content and the pedagogy used in the EPWP training programme under study (see Section 4.6). In terms of content, the policy context shaped the inclusion

of topics such as sustainable development, sustainability, conservation and wise management of resources, and co-management, which all reflect the environmental sector's mandate as outlined in key legislation such as the Constitution, the National Environmental Management Act and the Protected Areas National Environmental Management Act of 2003. As noted in Chapter 4, the EPWP training programmes funded by the DEA were to explicitly be aligned with the DEA mandate, and the project's implementation. In the training observed, the only manner in which the training was situated in this context, was through the content and concepts, and through one field excursion to identify plants. It was not situated in practical actions to address the mandate, for example undertaking soil management practices, or actually using equipment to manage problem plants, as was expected in the unit standards (see Section 4.5 and 4.6).

The training was also influenced by **historical contextual factors**. Most significant was the aim of the training which is to redress the inadequacies of the past. As reported in Chapter 4, the focus was on taking people out of poverty, redressing marginalization, improving the quality of life of the workers, and improving the quality of life of persons previously disadvantaged (see Section 4.4.2). This determined who should attend the training, namely designated groups, and disadvantaged groups including women, youth and the disabled. However, there was another historical contextual factor that influenced the training, namely the historical context of conservation which previously denied people access to the parks, and where people were arrested for utilizing resources in the parks. This discourse was strongly present in the comments of the participants in the course, and it was an area that was given attention in the course. As mentioned in Section 4.4.2, twelve out of thirteen learners of the class initially recommended that when the communities take plants out of the nature reserve they would call the security forces to take them to court. Communities have experiences where their families were sentenced to jail for interfering with natural resources. Their second reason is

that they want to protect their jobs, they feel that if the communities keep on taking resources illegally from the nature reserve the manager will expel them saying they are not doing their work and therefore they may lose their income – pointing to the historical influence of poverty on the community. Resulting from this, facilitators had to work with the learners to change their thinking and approach, to adopt community conservation policies, to develop capacity for communication strategies and to manage conservation issues between the reserve and the community. As described in Chapter 4, engagement with some of these historical issues assisted the facilitators and the learners to situate the learning historically.

The **economic context** also influenced the training. As mentioned in Chapter 4, and also in the other contextual factors above, the need for the EPWP and its training is based on the economic problem of poverty. As mentioned in Chapters 1 and 2, South Africa has a poverty problem which, while not as severe as in other countries, disproportionately affects the black population who were previously marginalized through apartheid policies, particularly in rural areas. There is also an economic growth problem as people both in the formal and the informal sectors are losing jobs and unemployment is increasing. EPWP workers are paid training allowances as well as costs to cover travel. These allowances seemed also to affect the training, as the facilitators mentioned that some just attended the training for the stipend, rather than for knowledge acquisition.

Education system functioning also influenced the EPWP training programme, particularly the requirements for accredited training provisioning, which was to be based on Unit Standards, as discussed in Section 4.4.4 and Section 4.2. There were also time specifications (2 days of training for 22 days of work) which was meant to allow for a theory-practice mix, allowing workers to apply the training concepts and content to the workplace, to develop skills. There was also a requirement to situate the training through skills audits that

would allow facilitators to adjust their training programmes to learners needs and prior knowledge and experience, and to achieve a balance between functional and entrepreneurship training. The aim being to equip workers with skills that can be used to secure other employment opportunities, and to identify career paths available to workers exiting the programme.

From the above, it is clear that at least to a certain extent, the skills programme examined in this study, responded to some of the contextual factors influencing the training, and allowed for situating of learning in policy, history and economic contexts. However, as indicated in Chapter 4, and as also noted by McCord (2008) in his critique of EPWP training, the expectations of the training are complex and very ambitious, and are difficult to achieve in the time allocated, and it seemed that the training approach (3 days training for 3 unit standards) was not adequate for fully developing employability skills, particularly as the training was not fully contextualized in the workplace as was the case in this training programme. As mentioned in Chapters 1 and 2, the unrealistic expectations of the EPWP training have been considered for Phase 2, where there is no longer a 'one size fits all' approach of 2 days of training for every 22 days worked, and departments can devise their own approaches to training. *From this case study, I would recommend that training facilitators consider not only aspects of the policy, historical and economic context in situating learning, but also the workplace context, to fully situate learning opportunities*.

5.2.2 Analytical Statement 2: Prior experiences of education influence learning in the EPWP environmental skills programmes

As indicated in Chapter 3, the learners observed consisted of 13 learners; 10 of who were female, the remaining three were male. 5 of the learners had passed grade 12 while the remaining 8 learners had not passed grade 12. Some of them have been out of school for sometime while others had only recently left

school. These differences influenced their learning in the EPWP skills programme, as discussed in Chapter 4. Falk (2005: 268)) has commented in his research about how learners make meaning of what they learn. He commented that “the manner in which learners learn is determined by what they learned and influences what they will and can learn. It is determined by individuals’ prior knowledge and interests. As they learn they relate their past experiences with the present, connecting what is happening in the present to what happened in the past”. Falk’s (2005) observation is supported by evidence in this research that knowing or making meaning of information is influenced by learners previous knowledge and experiences, as described in Chapter 4 when facilitators described how they adapted their training programme to accommodate learners’ language, and when they described the strategies that they used to support learners to gain access to the content and concepts that they were teaching. This was also shown when the learners’ realized that they knew more about the plants during the field trips.

Literacy levels were cited as a challenge (see Section 4.5 and Section 4.6), as was the time away from formal learning reflected by the facilitators comments on the young and old learners. In particular, the facilitators commented on learners’ literacy in English, particularly older learners who did not understand English. Facilitators noted that those who had just left school were young and could communicate a little better in English. The past educational experiences of the learners around language reading and writing show an influence in their learning. This has also been identified as a critical factor by researchers in education in the formal school systems. Rosenberg (2008: 6) indicated that learners are disadvantaged in the South African public schools as “the language of instruction and their home language do not coincide”. The teachers teaching also are teaching in a language in which they are not proficient (ibid: 6). According to the comments of the facilitators the conditions are worse with the learners in this EPWP project because they have been out of school for sometime. In rural areas, only their mother tongue tends to be

spoken, an environment which makes them struggle with their learning activities in English.

As indicated above, 8 out of the 13 learners in this class had dropped out of high school before completing grade 12. Learner drop out has been identified as a trend in South African schools. Taylor (2000:30) commented that one of the causes of dropping out is “inequality amongst schools in South Africa”. This is supported by studies on the performance of South Africans in literacy and mathematics reported by Taylor (2000) and Howie(2007). It is reported that “although schools are accessible to the majority of children the skills produced are expensive and their quality is low, a condition which affects the trainability of adults in the workplace and the educability of school leavers at further education” Taylor (2000: 38) as was the case in this study.

Comments from the data shows that the learners last used English when they were at school. What then should be done in the EPWP projects training? Should they be taught in the mother tongue? As shown in this study, the *mediation process* is significant in addressing the language problem, and this requires facilitators that are skilled in both languages – the language of learning, and the language spoken in the context in which the learning takes place. *Based on these insights from this case, I recommend continued dual language mediation in EPWP training programmes, as this seems to be a successful strategy for addressing the language gap between the language of the economy (English) and the local language experience of learners (isiXhosa).* The *mediation process* was also significant in engaging learners’ prior knowledge and experience such as when they were encouraged to share their prior knowledge of the plant species they knew, and when they were engaged in dialogue about their past experiences of conservation practices. *Based on this case evidence, I therefore also recommend giving attention to the mediation process in EPWP programmes, particularly looking at how*

mediation can help to draw out and affirm learners' prior knowledge and experience and use this as a resource for learning.

5.2.3 Analytic Statement 3: Learning in the EPWP environmental skills programmes is influenced by social interactions, activities and practices amongst learners and facilitators in the EPWP training programme

As reported in Section 4.5 and Section 4.6 learning on the EPWP programme was influenced by various interactions between learners and learners and facilitators. The materials provided guidance for this interaction (e.g. activities such as dialogues and group work were suggested), but so did the facilitators approaches to working with learners (e.g. they mediated language issues carefully), as did the learners themselves (e.g. they shared experience and knowledge of plants and previous conservation practices). The full range of learning interactions is reported in detail in Chapter 4 (Sections 4.5 and 4.6).

The importance of social interaction and participation in activities is seen as an integral part of learning. Reid and Nickel (2008) say that participation in learning is rooted in the notion of "taking part with others or having the share of something with others" (2008, pp.32-34). Scott and Gough (2008) argues that for learning to be complete it should not be a stand alone, it must involve participation and interactions in one way or another. Sarason (2004: 22) says learning is always composed of an interaction of factors to which he appends labels such as motivation, cognition, emotion and attitude). According to Scott (2008:82) Vygotsky is one of the theorists who reacted against and opposed modes of didactic learning and rote learning and called for learning that promotes social interaction). Rote learning is acquiring knowledge by repeating and reproducing what one has been told which does not encourage interactions amongst learners.

McLellan (1986) Brown, et al (1989) Duffy and Cunningham (1996) Young (1993) Land and Hannafin (2000) Glasser (2007) and Wals (2007) concur that learning is a result of social interaction and collaboration. It includes/entails the following strategies, story telling, reflection, anchored instruction, cognitive apprenticeship, modeling, collaboration, coaching, scaffolding, multiple forms of practice, exploration and articulation. In this EPWP training case study, the following interactions dominated in the training processes: storytelling and using case studies, dialogue, group work, anchored instruction, coaching, scaffolding, exploration and articulation through presentations and the making of charts. Interaction strategies that were less apparent or absent were: cognitive apprenticeship, modeling, engagement in multiple forms of practice, and experiential learning. The one experience of practice and experiential learning was a fieldwork trip to identify plants.

The training therefore appeared to favour learning interactions that strengthen the acquisition of knowledge and skills, such as sharing knowledge and values in groups, presenting to each other, reading aloud, engaging in dialogues, using case studies to understand concepts, sharing their own knowledge with facilitators and other learners and discussing problem situations and solutions. Even the practical fieldwork was aimed at learning content knowledge, values and concepts. Skills gained were mostly learning skills, communication skills and identification skills. These were seen to be very successful, and Facilitator 1 for example, commented that “98% of the learners were participating in group activities” (F1: 21-24), except in some cases where the old and young learners were paired and the young learners felt that their time was wasted as they did understand the concepts before the activities. I observed high levels of participation in most of these learning interactions, and as described in Chapter 4, they did have positive learning outcomes at the level of social skills development, communication development and the learning of content, concepts and new values. What was also encouraging of learning, was that learners were prepared to ask questions when they did not know or

understand, showing a confidence in the learning situation and an open environment of learning interaction amongst themselves and the facilitators.

Lave and Wenger (1991) argue that situated learning is usually unintentional and occurs as individuals move into the community of practice, and in the midst of moving towards the centre learners bring multiple sources of information including their own previous informal knowledge. While learners were not fully engaged in conservation practices as such, aspects of this view of learning were revealed in the learning interactions observed in the study, for example, where the young learners brought their English proficiency skills the old learners narrated their traditional environmental knowledge of plants and their traditional functions reflecting Falk's (2005:268) perspective on learning is: "Learners learn through a constant process of linking the past experiences to the present and connecting what is happening in the present to what happened in the past".

Wals (2007) identifies dissonance as a significant feature of social learning for sustainability, as discussed in Chapter 2. Engaging with dissonance was evident in the learning interactions, particularly the unit standard focusing on ethics and values, where learners engaged with the issue of either reporting communities to the police, or engaging with co-management approaches to conservation. Wals (2007) confirmed that there is no learning without "dissonance" but it should not be much because when it is a great deal it can also disturb learning. Conservation community awareness and communication with surrounding communities were identified as better routes to prevent extinction and promote sustainability. At the end both groups expressed the importance of the sense of ownership of the game reserve in consultation with the communities around the reserve (Wals, 2007), as reported in Section 4.6.

As noted in Chapter 4, the facilitators largely took on the role of the expert mediator, scaffolder and a facilitator of learning, using various strategies to do

so (see Section 4.6). According to Vygotsky (1987 cited by Scott 2008) a scaffolder scaffolds and constructs a pathway to the acquiring of knowledge by the learner. The learner is seen as a novice and the facilitator as an expert. The expert makes a diagnosis of the needs of the learners, and during facilitation of learning the facilitators' task is to bridge the gap between the expert and the novice (Scott, 2008). As indicated in Section 4.6, this was done through questions using learning materials and a variety of structured activities, leading questions, giving learners tasks to solve, giving them initial elements of the task solution, and listening to and commenting on learners' presentations. Learners reflected that they had learned much through these interactions and collaborations with their expert facilitators.

While this range of richly textured learning interactions were visible in the EPWP skills training programme, they did not extend to the field of practice where learners could learn some of the technical skills required in conservation practices. Learning interactions that favoured the acquisition of practical skills were for the most part not present. Learners could not model practices of clearing alien vegetation or using equipment to do so, nor could they model soil conservation practices. They could not learn how to apply control methods safely or accurately, and they were not provided with learning interaction opportunities that allowed them to take long term and short term remedial actions to resolve soil erosion problems.

From this analysis of this case, I would recommend that facilitators of the EPWP skills training programme give more attention to the latter set of learning interactions that would be necessary to learn the skills of conservation practice. This shows too that EPWP facilitators need to have the requisite Education, Training and Development Practice skills, particularly skills to design courses and training programmes that allow for the full scope of knowledge, skills, values and practical experience required by the unit standards. They should also have skills to critically engage the unit standards

where necessary (i.e. where much is expected of a short period of time – as indicated in Section 4.2. a lot is expected of short skills programmes meant only to last 30-40 hours).

5.2.4 Analytical Statement 4: Disjunctures between policy and practice influence learning in the EPWP environmental skills programmes

As mentioned above, not everything that was planned for in policy or strategy materialized in practice. The Oxford Dictionary (1997) traces the meaning of disjuncture from the word disjoin which means (separate/ disunite) so disjuncture means there is disunity / a disconnection of views between policy and practice at grassroots level which influenced learning in the EPWP environmental skills programmes, as already noted in Chapter 4 and in some of the discussion above.

To show up the disjunctures between policy and practice, I summarise the levels of compliance between the actual training observed, and the regulations that guide the training (as outlined in the various documents analysed, and as reported in Chapter 4) in Table 5.1 below.

Table 5.1: Summary of compliance to regulations in the training observed

Policy Regulation	Complied	Not Complied	
Skills audit conducted		X	
Training is accredited	X		
Workers are working in the project		X	
Preference of employment given to women & youth	X		
Training allowance paid			Not at the time of visit

Travel allowance paid			Not at the time of visit
Materials supplied	X		
Skills Programme between Level 1 & 4 on the NQF	X		
Based on DEA mandate & function	X		
Relevant to EPWP project implemented	X		
Facilitator had Education Training and Development Practitioner (ETDP) skills (Facilitator 1)	X		
Facilitator had subject matter specialist expertise (Facilitator 1)	Matric with work experience in the field		
Facilitator 2 (ETDP skills)		X	
Facilitator 2 (Subject matter specialist)	X		
Variety of materials to deliver the required skills, attitudes and values	X		
SETA monitors skills programmes funded by the SETA		X	

From the table and discussions above, it seems that the most significant non-compliance factor influencing the learning in the EPWP programme was the fact that learners were not workers at the same time that they undertook the training as this affected the efficacy of the training in terms of the wider policy objectives of providing skills training for employability. Other non-compliance factors were also significant to the learning for example, the lack of a skills audit left facilitators with inadequate knowledge of the learners previous knowledge and expertise, which they had to discover as they went along. This affected the situating of the learning programme, and the training was therefore more materials and facilitator driven than learners experience or existing expertise driven, although through skilled mediation, facilitators were able to reach learners and they did enable them to learn new concepts and

content as shown in Chapter 4. The absence of the SETA monitoring system also seems to be important. From this case analysis, I would recommend *stronger compliance with the regulatory framework particularly relating to the item of workers being engaged in the workplace while receiving training.* As shown in this study, this is not a simple matter, as it was the community decisions which affected this compliance factor in this case. *I would also recommend that the skills audit be done,* as this could have helped learners to choose training programmes that were more suited to their interests, as described in Chapter 4. It could also have assisted the facilitators to be more prepared for the differences experienced amongst the learners, and it may have influenced the selection of the group for training. It also seems that SETA monitoring is not being practiced in a way that gives attention to the full requirements of the unit standards, a matter which the facilitators themselves seem to require further support with as it was shown in Chapter 4 that they did not always provide the full scope of training required by the unit standards, despite the fact that their materials had been approved by the SETA. *From this case analysis I would therefore recommend SETA monitoring that includes the full scope of unit standard implementation and not just the content, concepts and values as represented in the materials.*

5.2.5 Analytical Statement 5: Assumptions raise hopes which influence how learners learn in environmental skills programmes. Assumptions are ambitious and difficult to realize

As shown in Chapter 4, there were a number of assumptions underlying the EPWP training programmes. I briefly summarise these in Table 5.2 below and comment on them based on observations from the case.

TABLE 5.2: Assumptions underlying the EPWP Training Programme observed in the case study

Assumptions	Observations from the case study
Educator Assumptions • If they are accredited quality training is guaranteed. • Conducting skills audits ensure quality learners and quality learning	Offering accredited training, and having ETDP expertise does not necessarily mean that the facilitators fully understand the scope of the training required, nor does it mean that full quality can be delivered, as shown in Chapter 4. As skills audits were not conducted in this case it is difficult to fully assess how they could or would have influenced the training, except considering their potential value i.e. to help identify learners prior knowledge and experience and competence levels prior to the training – as noted above.
Learner Assumptions • If they have been screened they will learn better. • If the choices of skills programmes have been made by learners they will learn better • If they are working in the project they will learn better • Participation in training in EPWP – ensures entrance into the labour market • Participation in EPWP training leads to higher education/ to occupational qualifications/employment after completion / career paths / employment in the project	As the skills audit was not conducted it is difficult to assess these assumptions about 'better learning' through screening and self selection of study material. Literature in the study focusing on situated learning seems to suggest, however, that giving attention to prior learning of learners does improve the quality of learning. The assumption about working in the project enabling better learning could not be fully observed in this case study, but it was apparent that not having opportunities to practice the concepts and content did not allow for the learning of key conservation practice skills. Without the workplace learning experience and the development of the conservation practice skills, employability could be reduced. There was little evidence of actual employment opportunities emerging from the case study. The case study showed that assumptions about participation in the EPWP training programmes leading to higher education, employment, career pathways etc. requires more long term observations of the efficacy of the training. The issues raised about the short term nature of the training and its lack of application to the workplace, however, suggest that this assumption may be ambitious and difficult to fully realize.
Institutional and	The case evidences shows that this assumption is

programmatic assumptions • Assume that all learners/ workers understand English – all the materials from the SETAs are written in English • All learners in EPWP are workers in the project • By virtue of implementing accredited training SETAs will monitor the training	erroneous and that other strategies are required to mediate the language issues in the training. Having the training materials in English does not give adequate access to all learners, and they are therefore left with mediated interpretations from facilitators and other learners as the main source of information and learning support. The case evidence shows that not all learners are workers in the project, an issue discussed in detail above. The case evidence shows that SETAs are not monitoring the training adequately, even at the level of materials approval, as there was no evidence of applied skills development in the training or the training materials, yet the unit standards required this.

From the above case evidence it is clear that most assumptions are either ambitious or implementation practice is such that they are not being met. Of significance to the learning process, however, is the assumption that learners hold about the benefits of the training. Learners assume that at the end of the training they will be declared competent and obtain credits towards qualifications. They will be assisted to develop career paths towards qualifications. They will obtain skills to secure them employment and enhance their ability to work in the project, as shown by these statements "I shall use it when I get the work in the reserve" and "when I get work in the environment" (see also Chapter 4). The data from the observations indicate that these assumptions have created hopes amongst the learners in the course. They hope that they will progress to higher education from any starting point and develop an ability to obtain credits for and recognition for their learning. As reported in Chapter 4, in most of the focus group discussions they expressed how the training would assist them to secure employment in the game reserve and in the environmental sector (FG3: 20-30), and this provided the motivation for their participation in the skills programme. This, however, seemed to be undermined by other factors, as stated by the facilitator who commented on

the fact that their English literacy was not adequate for supporting the tourists who did not understand their mother tongue. Here too, the facilitator bases his argument on the assumption that the training will assist them to get a job in the game reserve.

All these assumptions are possible but the policies (as reported in the document analyses in Chapter 4), express them as if they are automatic and as if they will simply happen in practice. For these assumptions to be successful, they would require a lot of work from the different skills development stakeholders for them to materialize. As shown above, the quality of training would need to be monitored differently. The names of the learners would need to be registered on the National Record of Learners Data which means they would need to be properly employed while undertaking the training. Training would need to be constituted within a longer term time frame, offered in dual language mode (with both English and IsiXhosa materials) and further training is needed with an applied focus and would need to be implemented to enable the learners to receive a full qualification. Unfortunately EPWP programmes are short-lived and the Department hands over the project to communities when the project has come to an end. Who therefore can take over further training of workers in the project? *From this case evidence and analysis of the underlying assumptions, I would therefore recommend that strategies need to be developed to support further facilitation of training for the EPWP training component so that full qualifications can be achieved. This means that EPWP training should be conceptualized within a longer term training framework. The alternative would also be to review the assumptions and make them less extensive and ambitious.*

5.2.6 Analytical Statement 6: EPWP environmental training programmes develop a mix of concepts, content, skills, values and attitudes, but without giving equal attention to all, environmental learning can be limited

As reported in Chapter 4, learners learned a number of environmental concepts including: conflicting values, sustainability, preservation, conservation, extinction, conservation awareness, ecology, ecosystems, carbon sink, natural resources, management of resources, indigenous and alien plants, fauna and flora, soil erosion and tourist attractions. Chapter 4 also pointed out that very little attention was given to the application of these concepts in a workplace context. Consequently, since the objective of the training is to further employability, life skills and career development, one could question the full value of what has been gained through the training programme. According to Vygotsky (1987, cited by Scott 2008) direct instruction in concepts is impossible and pedagogically fruitless. He likens that to memorization of words without meaning. While learners on this programme were exposed to a lot of direct instruction in concepts, they were, however, through the social interaction process able to question an 'empty pedagogy' such as that one referred to above. As mentioned earlier, whenever there was a concept they did not understand they called upon the facilitator to explain. The facilitator would explain the concept by means of illustrations, examples and through the use of translation, as reported on in Chapter 4. Through these strategies, the learners also gained access to and mastery of environmental content namely environmental value systems, the use and sustainable management of natural resources, natural resources, indigenous and alien plants and their examples and sites and causes of soil erosion. The facilitator took the learners out for fieldwork to observe what they had learned in class. As reported in Chapter 4, in class the learners were given English names for the examples of both alien and indigenous plants and in the field they identified the trees which were discussed in class. This exercise cleared up some of the problems they encountered. They observed that they knew the trees but in their own language. The facilitator assisted the learners by giving them specific actions to take and the learners gained knowledge through participating in those different activities. Learners also gained a number of

skills, including communication skills, ability to make judgments, ability to make decisions, identification of trees, observation skills, reading skills, presentation skills, public speaking, collaboration and the ability to work in groups. In addition they also learned values; namely, caring, self respect and respect for the environment, respect for the next person and human dignity, ideas of right and wrong the importance of understanding that people have environmental conflicting values, the recognition of the importance of all languages, equity, sharing of information, social justice, human rights and being responsible.

In summary, learners learnt environmental concepts and content, and knowledge. They gained access to some environmental skills, personal relations skills, communication, learning and life skills. They learned problem solving, presentation and group work skills. They learned the importance of nature reserves to their communities as well as how the officials in parks and reserves need to communicate with the community members. Reserves are not only about plants and animals but are also about people.

Though Scott and Gough (2003) identified conservation as one of the focus areas of environmental learning, the learning of concepts, knowledge and content are criticized in environmental learning. Robottom (1991) refers to an emphasis on teaching content and concepts as technocratic rationality. To Robottom (1991) this type of learning emphasizes didactic teaching of pre-existing knowledge which transmits knowledge to learners. The transmission of content and concepts is also criticized in outcomes education. While this approach is critiqued in environmental education in this research it has been discovered that concepts and content and knowledge are crucial for learning in the EPWP projects as learners at their level are in need of content and environmental knowledge to assist them to work better.

Environmental educators, however, tend also to emphasise action oriented and socially critical approaches to learning (Robottom, 1987; Gough & Robottom, 1993; Wals, 2007) – amongst others. They propose that to deal with complex environmental problems learners need to be engaged in praxis, where theory and practice are integrated in conservation and sustainability actions that involve decision making, taking action and reporting and reflecting on the action. This was only partially achieved in the EPWP skills programme being observed, mostly because the facilitators failed to take full account of the requirements of the unit standard which required learners to engage in conservation practices, as reported in Chapter 4 and as discussed above. Even though the unit standards emphasized practical conservation skills, they also encouraged reflection on the practices, another aspect that was not fully developed in the EPWP skills training programme observed in this study. *Based on this evidence and analysis, I recommend that the EPWP skills training programmes be fully implemented, and include attention to concepts and content, values, as well as skills development and critical reflections on actions*.

5.2.7 Analytical Statement 7: Power relations affect what learners learn within the EPWP skills programmes

Power relations influence social practices, including learning. Power relations can be downward or upward. They are downward when superiors influence the subordinates and are upwards when the subordinates influence the decisions of the leaders. Power relations can be a constraint to human action but sometimes they can make action possible. Power has different sources. A source can be a social class, a delegated authority or power can arise from a structure (Abercrombie, Hill & Turner, 2006). According to Cornbleth (1990) a structure refers to established roles and relationships including operating norms and shared beliefs. As indicated above, training in the EPWP is heavily influenced by a number of structural features such as policies and regulations.

Evidence presented in Chapter 4, and in the discussions above, indicates that power arising from the policy regulations, funding regulations, financial resources and education and training structural arrangements heavily influences what the learners are able to learn. Some learners indicated that they would like to have access to training in other fields like nursing and teaching. The regulations, however, would not allow that as the policy says that the training should be relevant to the mandate of the department and be related to the project. Secondly each department is funding its needs not the needs of other departments. The structure of the EPWP Social Responsibility Programme projects also determines the type of and the length of training conducted, and thus the learning opportunities. The power of the facilitators to design learning materials in a particular way (i.e. that emphasizes content and concepts) over practical workplace skills development also influenced what learners could learn. *Based on this analysis and this case, I recommend a more critical stance towards the power relations in this and possibly also other EPWP training programmes, as they influence what learners are able to learn, and structure learning in particular ways. I also recommend more in-depth analyses of the full benefits of these training programmes for those whom they are meant to benefit, namely the learners.*

5.3 LEARNING IN THE EPWP SKILLS TRAINING PROGRAMME AND THEORIES OF SITUATED LEARNING

As discussed in some detail in Chapter 2, situated and social learning is the subject of discussion amongst a number of contemporary learning theorists, which I discuss here in order to provide a final 'comment' or analysis of the data discussed in Chapter 4 and analysed further in Section 5.2 above. Brown, Collins and Duguid (1989), Lave and Wenger (1991), Land and Honnafin (2000) and Lunce (2006) agree that a fundamental concept of situated learning is that *it takes place in specific contexts*. They believe that when learning is removed

from its context the values and relevance of that knowledge depreciate. There are diverse explanations of the context. According to Cornbleth (1990); Young (1993) and Ballantyne and Parker (2005) the context involves people, machines, background, circumstances, surroundings, frameworks, situations, cultures, shared understanding and position where learning takes place. Engeström (2007) understands it as the container for social interaction and a "con" + "text" that is a container for text. Chacklin and Lave (1993) view context as a social world constituted in relation with persons acting. They emphasize that both context and persons acting cannot be separated.

It is evident from the above literature that learning cannot be examined in isolation from the context as it would be irrelevant without the context. As mentioned in Chapter 1 and 4, the context of the EPWP project under study, is a nature reserve context where workers were meant to be trained to undertake conservation actions (e.g. resolving soil erosion, engaging ethically with communities, and solving problem plant issues). As shown in Chapter 4 and in the discussion above, the context of the training includes historical, economic, and policy and legislative issues (see Section 4.3 and Section 5.2 above). All of these factors influenced learning in the EPWP programme, but as mentioned above, the learning was only partially situated in context, as the facilitators and their materials did not allow learners to *apply learning in context.* This appears to be an important dimension of situated learning.

A second key concept of situated learning is *engagement in collaborative processes which entails social interaction and cooperation amongst learners*. Students interact with other communities of practice and the relationship amongst them is peer–based, involving a wider set of relations than formal teacher-student relationships only (Lunce, 2006:39). Falk (2005: 269) explains this as a process of being "enculturated into a community of learners", involving exchange of ideas, understanding and dialogue with other learners and members of the community of practice As described above, this was a key

feature of the training programme. However, part of the process of situated learning entails observing the actions and practices of more experienced peers, attending to spoken communications of expert practitioners, and could involve other strategies such as scenario based learning activities and role plays. Some of these were applied in the EPWP skills training programme. Situated learning theorists, however, note that learning commences by observing at the boundary, in a stage where learners are still novices (e.g. learners in this case would have had to observe more experienced others applying soil conservation techniques, or using the equipment in problem plant management practices). As the learning and the development increases the learners move from the level of a novice, and an observer to be fully functioning agents where learners in this case would, for example, be using the equipment or applying the soil conservation techniques themselves (Lave & Wenger, 1991:110). As indicated here, and also in Chapter 2, situated learning implies participation in workplace experiences, either through observing others or through undertaking actions in the workplace. As indicated above, this did not fully take place in the EPWP programme under study.

A third significant component of situated learning, according to George (2001) and Lunce (2006) is the assumed *presence of tacit knowledge*. Tacit knowledge is knowledge which members of the community have developed over a period of time but they are often unable to articulate it. Though it is not articulated, it forms an integral part of the learning. Situated learning therefore promotes reflection and articulation to enable tacit knowledge to be made more explicit. For example, a worker practicing a soil conservation technique might be asked to explain to others what he or she was doing and why he or she was doing it in a particular way. This would make the tacit knowledge of the conservation practitioner more accessible to others who might be observing him or her. This did not happen in the case study, but workers were able to express some of their tacit knowledge in the classroom interactions and in the fieldwork experience. Eliciting tacit knowledge therefore also often

involves using teaching and learning strategies such as promoting learners' work in groups, discussions of issues, report backs, case study observations, fieldwork, presenting findings and participating in debates so that the students get opportunities to negotiate and defend their knowledge. In such processes tacit knowledge is made explicit as was evident in this EPWP skills training programme.

Mclellan, (1986), Brown et al.(1989), Duffy and Cunningham, (1996), Lave and Wenger (1991) and Lunce (2006) concur that situated learning pedagogy utilizes the following strategies, reflection, stories, cognitive apprenticeship, modelling, social interaction, collaboration, coaching, scaffolding and judging, multiple practices, exploration and articulation. As reported earlier, in my review of the literature on situated learning and social learning (see Chapter 2), I noticed that there are common strategies proposed for learning; for example, reflection, integration, negotiation, participations, scaffolding, social cohesion, constructive dissonance, disagreement and collaborative action. Social learning focuses towards the application of situated learning in social context, while situated learning often focuses on the cultural historical antecedents of learning. Both are within the 'participation' metaphor of learning, and emphasize learning and participation in and out of practice. In this case study, situated and social learning approaches to learning were only partially developed, even though these are approaches increasingly recommended for workplace learning, as discussed in Chapter 2.

Young (1993:45-46) argues that for learning to be situated it needs to address the following issues:

- It should be learning that engages solving of problems, distributed across many individuals with solutions of problems being generated through collaboration and coordination. *This was done, but only in classroom contexts in this case study.*

- It must have attributes of real life problem solving situations and involvement in practices, actions or activities. *This was done, but through the use of case studies, not real life practice engagements.*
- Opportunities should be created for the detection of relevant versus irrelevant information. *This was done through classroom activities, but not in the context of practice.*
- Active and generative engagement in finding and solving problems should be detected. *This was done, but was strongly guided by facilitators' structured activities, and not in the context of practice.*
- It should create opportunities for involvement of the students' beliefs and values and engagement in collaborative interpersonal activities. *This was done, and was particularly successful in deliberating how to engage with communities in people-park interactions.*

Initially situated learning theory was seen to be relevant to informal learning settings only, but Brown et al. (1989) argued that it is equally significant in formal settings, and has much to offer such settings, particularly in workplace learning contexts, as described in Section 2.3 and Section 5.3.. He confirmed that it is possible that the benefits of situated learning be brought into classrooms or into training situations such as those promoted in the EPWP which require a mix of theory and practice, and the learning of knowledge, skills and values (as described in Chapters 1, 2 and 4). *A key finding of this study is that without engagement with practice, situated and social learning approaches can only partially be achieved in workplace learning skills development programmes. I therefore recommend that EPWP trainers (such as those in the case study) be supported to develop their understandings of situated workplace learning so that the scope of the skills development intentions of the EPWP programmes can be more fully realized in practice. This would require professional development for ETDP practitioners and SETAs involved in providing EPWP programmes.*

5.4 CRITICAL REVIEW OF THE RESEARCH PROCESS AND RECOMMENDATIONS FOR FURTHER RESEARCH

As indicated in Chapter 3, this study was conducted as an interpretive case study. As indicated, I had initially planned to collect data in two projects and observe two providers but that did not materialize because of the procurement procedures of the department as there was one provider doing training in this field at the time of the collection of data. However, as shown in Chapter 4, substantive data was generated to allow me to develop in-depth understanding of one case. A further case would have provided further insights, but may have led to data overload. The possibility exists for further analysis of other cases of EPWP training using the frameworks and methods used in this case study. As mentioned in Chapter 1 there is a dire need for research on what and how learners actually learn in EPWP training. It was not my intention to cover the full scope of EPWP training programmes, but rather to understand the question through in-depth analysis of a case. This case can potentially be used to develop hypotheses and research instruments for a wider case analysis.

As indicated in Chapter 3, I used a variety of techniques to generate data, and as reported in Chapter 4, these different data sources provided different perspectives on the questions being studied allowing for triangulation and thick description. Together they provided a fuller picture of the EPWP skills training programme intentions, assumptions, contextual influences, learning and learning processes. This required careful recording, coding, management and analysis of the data. I had originally also planned to observe learning in the workplace context to fully understand the application of the training, but due to the implementation problems and the disjuncture between the project policy and implementation it was not possible to observe this aspect of the training. I was, however, able to identify the disjuncture, and the possible implications of this disjuncture. The influence of the learning on the workplace has not been investigated as they were not working in the project. The

influence of learning on the workplace therefore remains the subject of further research.

Through this study I have managed to come up with the findings reported in Chapters 4 and 5. In my view, there are a number of issues that require further research such as:

- The scope of learning interactions that exist between learners, facilitators and the field of practice,
- The power relations that influence how EPWP training programmes are structured and implemented, with specific reference to real benefits to learners,
- The language of learning and how best to mediate learning in a complex language learning environment where mother tongue and language of speaking is not the same as that prescribed by SETAs as the language of learning, particularly in a context where literacy skills have not been adequately developed in the schooling system,
- The complex and ambitious assumptions that underlie EPWP training and how they can be either realized, or reduced in scope, and
- How the quality of the EPWP skills programmes could be improved through deeper understandings and applications of situated workplace learning theory and course designs.

Given the range of issues that I have raised in this research I consider it essential that further research be done using more information from more projects. This would provide further insight and a deeper understanding of how learners learn in the EPWP. Such an expanded research programme would also provide insight into how different providers conduct training, and would also provide insight into how different contexts, different materials and different facilitators influence the outcomes of the training. I am therefore recommending that the South African Qualifications Authority and the Rhodes

University Environmental Learning Research Centre, who are collaborating in a workplace learning research and sustainability practices research programme could use some of the insights from this study to inform further research. This study was funded under this research programme, and therefore it will be important that its recommendations be considered within the broader research programme framework.

The insights may also be useful for DEAs monitoring of training, and as I mentioned in Chapter 1, I have a responsibility for such a function in DEA. This study has managed to give me some understanding of what is happening in the EPWP teaching and learning situation, at least in one case. While it is not possible to use the one case as the basis for recommendations across all EPWP training programmes being run by DEA, the study has allowed me to identify useful questions that can be used in further monitoring. These questions will allow me to focus on the learning processes. Previous monitoring tools did not focus on this, but were more technical and compliance oriented. I could test the use of such learning centred questions across a wider range of EPWP Programmes in future.

Because of time constraints and the scope of this half thesis study, I only observed three unit standards out of ten. I think that observing the course as a whole would have given me deeper insights into, and understandings of the activities, interactions, assumptions and practices that take place in class. Observations would therefore not be limited to the three days allocated to these three unit standards, but would be contextualized within a broader framework, which I also identified as being important in Section 5.2 above. For further research I would, however, have to take leave and observe the facilitation of the whole course.

5.5CONCLUSION

This chapter provided a summative analysis of the study, using a set of analytical statements which helped me to review the main findings of the study. I also drew on theories of situated learning to provide a final critical analysis of the findings, as situated learning theories are informing environmental learning and workplace learning developments as observed in the national and international literature. From this I was able to identify a number of recommendations for others to consider in similar or related research or practice situations. I do not claim to generalize from this case study, but I have rather used the case study to identify aspects that need to be further investigated and that can be considered to improve EPWP skills training programmes. The study has shown that there are complex and ambitious assumptions and contextual factors that shape the EPWP skills training programmes, and that policy and practice are not always aligned. It has also shown the powerful influence of facilitators and the way they design their training programmes on what learners learn in EPWP skills training programmes, such as the one studied in this case. As indicated in the final section of this chapter, the study has opened up possibilities for further research, and questions focusing on learning that can be used for monitoring of EPWP training programmes in future. While being limited to three unit standards and only part of a full skills programme, the study has provided some useful insights into the context and practice of EPWP skills training programmes in the environmental sector. As researcher I have learned a lot, about learning, learning theory, contexts and assumptions of the EPWP programme, and the practices and experiences of learners and facilitators.

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APPENDICES:

APPENDIX 1: DOCUMENT ANALYSIS OF POLICY DOCUMENTS

Appendix 1.1 : RDP Development Documents of 1994

1. SA girls and women should be given first preference as they have been denied opportunities for good education in the past
2. Its function is establish a national qualifications framework,
3. To enable the learners to progress to higher education from any starting point.
4. Develop an ability to obtain credits for and recognition for their learning.

Appendix 1.2: Skills Development Act of 1998

1. To improve the skills of the South African workforce, integrate the strategies within the national
2. Provide learnerships that lead to recognized occupational qualifications
3. Develop the skills of the South African Workforce
4. Improving the quality of life of the workers, their prospects of work and labour mobility
5. To improve the quality of life of the workers,
6. To improve productivity in the workplace, competitiveness of employers
7. To promote self employment, improve delivery of social services
8. Increasing the levels of education and training in the labour market and return on that investment:
9. To encourage the employers to use the workplace as an active learning environment
10. To provide employees with opportunities to acquire new skills
11. To provide opportunities for new entrants to the labour market
12. To employ persons who find it difficult to be employed
13. To encourage workers to participate in learnerships and other training programmes
14. To improve the employment prospects of persons previously disadvantaged by unfair discrimination to address those advantages through training and education
15. To assist the work seekers and the retrenched to find work.
16. A skills programme is an occupationally based programme.
17. When completed it constitutes credits towards a qualification registered in terms of the NQF as defined in section one of the SAQA act.
18. Training should be provided by training providers accredited by the Education and Training Quality Assurance as defined in Section 5 of the SAQA act.
19. The SETA must monitor the skills programmes funded by the SETA. A SETA that has made funds available for a skills programme may withhold funds if it is of the opinion that funds are not properly used

Appendix 1.3: State of the Nation Address by President made on February 2003

1. National government would work both with the province and local government to introduce public works programmes :
2. To upgrade community infrastructure to improve social services and to provide employment.
3. To extricate them from conditions of underdevelopment and entrenched poverty
4. To draw the unemployed into productive work and that those workers gain skills while they work and thus get an opportunity to get out of those marginalized**.**

Appendix 1.4 : Code of Good Practice for EPWP Phase 1

1. Focus need be on women, female headed households, youth, and the women.
2. Individuals and communities would be empowered through the provision of training.
3. Ensure that a minimum of 2 day training for every 22 days worked is set aside for training.
4. Unemployed people would be provided with a combination of work experience and training.
5. Proper skills audits should be conducted where possible
6. Workers will be paid a training allowance.
7. The costs of training will be covered for example travel, trainers and materials.
8. Training should have a clear training programme in place certification.
9. 30% of the training provided should be accredited training.
10. There should be balance between functional and entrepreneurship training.

11. It should equip workers with skills that can be used to secure other employment opportunities, identify career paths available to workers exiting

Appendix 1.5: Training Strategy Developed by Department of Public Works for EPWP Phase 2

1. 2 days to 22 days of training posed a challenge to the unpacking of the intensity and quality of training desired.
2. There was misalignment between processes of Department of Labour and the implementation of projects.
3. There was a shortage of training providers.
4. Training was not prioritized in the the traditional procurement process
5. Complexity of EPWP projects made it difficult for planning of relevant training programmes.
6. In most projects courses offered were not of quality and that led to very little impact.
7. Defines training as any structured learning /skill development intervention which is intended to enhance productivity during project implementation
8. facilitates placeability beyond the EPWP project
9. Essential for generation of productive employment to ensure efficient and effective implementation of the project.
10. Ensures skilled labour required for a particular speciality which is critical for a particular project
11. Should be aligned to scarce skills.
12. Should be programme specific. It needs to shift to quality training.
13. Emphasis need to be on medium / long accredited training.
14. Skills audits are a priority.

Appendix 1.6: The Training Policy of the Department of Environmental Affairs 2009.

1. To provide training to persons employed in EPWP projects funded by the department that
2. To enhance their ability to participate effectively in the project and
3. To obtain employment after the completion of the project
4. Should entail both accredited and non-accredited training
5. *Accredited training* is training where both the training course and the accredited training provider are accredited by the South African Qualifications
6. Enhance the person's ability to permanently enter into the job market.
7. Accredited training entails skills programmes and learnerships.
8. Due to time and project constraints the departments' accredited training is limited only to skills programmes
9. The learnerships are used as exit opportunities when the project has come to an end.
10. Skills programmes should be limited to levels 1- 4
11. The total number of credits per skills programme should range from 25 to 75.
12. The higher the number of credits per skills programme the fewer the learners who will be trained
13. To provide learners opportunities to be declared competent in respect of accredited training skills programmes that form part of an accredited qualification.
14. To increase the ability of the trainee to permanently enter the job market.
15. To obtain credits towards a qualification
16. To create self employment taking into account the needs of the job market.
17. To create entrepreneurial opportunities for trainees firstly in the areas in which they resuide and in the country as a whole
18. Skills programmes must put the trainee on a path to eventually obtain a qualification
19. Qualification must be aligned to the training fields that support the function of DEA
20. Training must be relevant or aligned to DEA 's mandate and functions
21. It must also be applicable to the project implementation
22. The training readiness of workers and their levels of education must be determined before appropriate courses are recommended

APPENDIX 2: DOCUMENTS ANALYTIC MEMO

4.2CONTEXT	D1	D2	D3	D4	D5	D6

4.2.1 Policy Context	D1: 2Establish a national qualifications framework D1:1 First preference to be given to girls & women as they have been previously denied opportunities D1: 3 To enable the learners to progress to higher education from any starting point			D4;3 Ensure that 2 days training for every 22 days worked is set aside for training D4: *Accredited training* is training where both the training course and the accredited training provider are accredited by the South African Qualifications Enhance the person's ability to permanently enter into the job	D5:1 2days training for every 22 days worked posed a challenge to the quality of training desired D5: 2 there was misalignment between processes of departments and the department of labour funding training	D6:1 To provide training to persons employed in EPWP projects funded by the department D6: 2 To enhance their ability to participate effectively in the project D6:3To obtain employment after the completion of the project D6: 4 should entail both accredited and non-accredited training D6:20Training must be relevant or aligned to DEA 's mandate and functions D6: 21 It must also be applicable to the project implementation
4.2.2 Historical Context **Preference given to previously disadvantaged**	D1:1 First preference to be given to girls & women as they have been previously denied opportunities			D4:1 Focus to be on women, female headed households, youth and the women as they have been disadvantaged in the past		
4.2.3 Physical Context			D3:1 To upgrade community infrastructure to improve social services			
4.2.4 Economic Context **Employment**		D2:12 To employ persons who find it difficult to be employed		D4: 6 Workers will be paid a training	**D5: 4** Training not prioritized in the traditional	**D6:**To enhance the persons' ability to enter the job market

Training allowance **Enter job market Costs for training covered** **Improve quality of life** **Entrance into the labour market**		D2:15 To assist the workseekers & the retrenched to find work D2:6 To improve the quality of life of the workers, prospects of work and labour mobility D2:11 Provide opportunities for new entrants to the labour market		allowance D4;7 the costs for training will be covered for example travel, trainers and materials	procurement procedures	
4.2.5 Education and Training system functioning **Skills audits conducted** **Training should be accredited** **Should be aligned to scarce skills** **Skills programmes that lead to qualifications** **Learnerships**		D2: 2 Provide learnerships that lead to recognized occupational qualifications D2:8 Increasing the levels of education and training in the labour market and return on that investment:		D4:2 Individuals and communities would be empowered through the provision of training D4:5 Proper skills audits should be conducted D4; 9 30% of training should be accredited training	D5: 3 There was a shortage of training providers D5: 6 In most projects training offered was not of quality and that led to very little impact D5: 8 Training should facilitate placeability of learners beyond the project D5:11Should be aligned to scarce skills. D5:12 Should be programme specific. D5;13 It needs to shift to quality training. D5: 14 Emphasis need to be on medium / long accredited training. D5: 15 Skills	D6: 8 Due to time and project constraints the departments' accredited training is limited only to skills programmes D6:9 The learnerships are used as exit opportunities when the project has come to an end. D6: 10 Skills programmes should be limited to levels 1- 4 D6: 11 The total number of credits per skills programme should range from 25 to 75 credits D6: 12The higher the number of credits per skills programme the fewer the learners who will be trained D6: 13 To provide learners opportunities to be declared competent in

					audits are a priority.	respect of accredited training skills programmes that form part of an accredited qualification D6:18 Skills programmes must put the trainee on a path to eventually obtain a qualification
4.2.6 Other						
4.3 WHAT THEY LEARN						
4.3.1Knowledge / content **Credits towards a qualification** **Shift to quality training** **Provide opportunities to be declared competent** **Aligned to training field that support DEA and its mandate** **Relevant to the project**	D1 :4 learners to obtain credits for and recognition of their learning				D5:10 Ensures skilled labour required for a particular speciality which is critical for a particular project D5:11 Should be aligned to scarce skills. D5: Should be programme specific. It needs to shift to quality training. D5;13 It needs to shift to quality training. D5: 14 Emphasis need to be on medium / long accredited training.	D6:13 To provide learners opportunities to be declared competent in respect of accredited training skills programmes that form part of an accredited qualification. D6: 14To increase the ability of the trainee to permanently enter the job market. To obtain credits towards a qualification D6: 13To provide learners opportunities to be declared competent in respect of accredited training skills programmes that form part of an accredited qualification D6:19 Qualification must be aligned to the training

						fields that support the function of DEA D6: 20Training must be relevant or aligned to DEA 's mandate and functions D7: 21It must also be applicable to the project implementation
4.3.2 Skills **Increase skills** **Secure employment** **Create speciality Aligned to scarce skills** **Create self employment** **Create entrepreneurial opportunities** **Obtain employment after the completion of the project**		D2;1 To improve skills of South African workforce D2:3 Develop skills of the SA work force D2:10 Provide employees with opportunities to acquire skills	D3:3 Workers to gain skills while they work and get out of those marginalized	D4: 11 Training should equip workers with skills that can be used to secure other employment opportunities & identify career paths available to workers exiting	D5:10 Ensures skilled labour required for a particular specialty which is critical for a particular project D5:11 Should be aligned to scarce skills. D5:16To create self employment taking into account the needs of the job market. D5: 17 To create entrepreneurial opportunities for trainees firstly in the areas in which they reside and in the country as a whole	. D6: 6To enhance their ability to participate effectively in the project and D6: 7To obtain employment after the completion of the project 23. 24. D6: 8 should entail both accredited and non-accredited training 25. **D6:5** *Accredited training* is training where both the training course and the accredited training provider are accredited by the South African Qualifications Enhance the person's ability to permanently enter into the job
4.3.3 Values						
4.3.4 Attitudes						
4.3.5 Other						
4.4 HOW THEY LEARN						
4.4.1 Educators' roles, actions and practices						*D6: 5 Accredited training* is training where

Trainers/educators should be accredited by SAQA						both the training course and the accredited training provider are accredited by the South African Qualifications
4.4.2 Learners responses /practices **Develop abilities which will lead to self Employment.** **Develop entrepreneurial opportunities**						D6: 16 To create self employment taking into account the needs of the job market. D6 17:To create entrepreneurial opportunities for trainees firstly in the areas in which they reside and in the country as a whole
4.4.3 Interaction processes						
4.4.3 Assessments						
4.4.4 Assessment						
4.5ASSUMPTIONS						
4.5.1Learner assumptions **To obtain credits towards qualifications** **Should be declared competent** **Assisted to develop career paths towards qualifications** **Learners to obtain skills to secure them employment** **Enhance their ability to work in the project** **Obtain employment after completion**		**D2:9** To encourage the employers to use the workplace as an active learning environment D2:2 To extricate them from conditions of underdevelopment and entrenched poverty	D3: 3To draw the unemployed into productive work and that those workers gain skills while they work and thus get an opportunity to get out of those marginalized**.**	D4: 11 It should equip workers with skills that can be used to secure other employment opportunities , identify career paths available to workers exiting D4:To enhance their ability to participate effectively in the project and D4:To obtain employment after the completion of the project		D6 :15 To obtain credits towards a qualification D6:13 To provide learners opportunities to be declared competent in respect of accredited training skills programmes that form part of an accredited qualification D6: 18 Skills programmes must put the trainee on a path to eventually obtain a qualification

4.5.2Educator Assumptions						
4.5.3 Institutional/ systemic assumptions **Education and training in the labour market** **Scarce and critical skills** **Ensure skilled labour** **Quality** **Skills audits**		D2:8 Increasing the levels of education and training in the labour market and return on that investment:			**D5:9 Training should be** essential for generation of productive employment to ensure efficient and effective implementation of the project. D5:10 Ensures skilled labour required for a particular speciality which is critical for a particular project D5:11Should be aligned to scarce skills. D5:12 Should be programme specific. D5;13 It needs to shift to quality training . D5: 14 Emphasis need to be on medium / long accredited training. D5: 15 Skills audits are a priority.	D6: 8 Due to time and project constraints the departments' accredited training is limited only to skills programmes D6:9 The learnerships are used as exit opportunities when the project has come to an end. D6:10 Skills programmes should be limited to levels 1- 4 D6:11 The total number of credits per skills programme should range from 25 to 75. D6: 12The higher the number of credits per skills programme the fewer the learners who will be trained D6: 22 The training readiness of workers and their levels of education must be determined before appropriate courses are recommended
4.5.4 Programmatic Assumptions **Progess to higher education**	DI:4 Enable learners to progress to higher education from any starting point	D2: 2 provide learnerships that lead to recognized occupational qualifications D2:18 Training	D3: 3To draw the unemployed into productive work and that those workers gain skills while they work and thus get an	D4: 11 Training should equip workers with skills that can be used to secure other	D5: 1 2 days to 22 days of training posed a challenge to the unpacking of the intensity and quality of training	D6: 14To increase the ability of the trainee to permanently enter the job market.

Training leads to occupational qualifications **SETAs will monitor** **Secure employment** **Permanently enter the job market** **Career paths**		should be provided by training providers accredited by the Education and training Quality Assurance as defined in section 5 of the SAQA act. D2:19 The SETA must monitor the skills programmes funded by the SETA D2:2To extricate them from conditions of underdevelopment and entrenched poverty	opportunity to get out of those marginalized**.**	employment opportunities & identify career paths available to workers exiting	desired.	D6: 6Enhance the person's ability to permanently enter into the job market
Employment /workers Assumptions **Employability** **Productivity & competitiveness** **Improve quality of life** **Secure other employment** **Create entrepreneurial opportunities** **Create self employment** **Facilitate placeability of workers** **Improve delivery**		D2:12 To employ persons who find who difficult to be employed D2:6 To improve productivity in the workplace, competitiveness of employers D2:5 To improve quality of life of the workers D2:11 To provide opportunities for new entrants to the labour market D2: To promote self employment & improve delivery of social services	D3: 3 EPWP to draw unemployed into productive work D3: 2 To extricate people from conditions of underdevelopment & entrenched poverty D3: 3To draw the unemployed into productive work and that those workers gain skills while they work and thus get an opportunity to get out of those marginalized**.** competitiveness of employers	D4: 4 Unemployed people would be provided with a combination of work experience and training D4: 11 It should equip workers with skills that can be used to secure other employment opportunities , identify career paths available to workers exiting	D5: 8 training should facilitate placeability of workers beyond the project	D6:16 To create self employment taking into account the needs of the job market. D6: 17 To create entrepreneurial opportunities for trainees firstly in the areas in which they reside and in the country as a whole

APPENDIX 3: OBSERVATION SCHEDULE FOR TEACHING & LEARNING IN CLASS

Name of a Provider:
Unit Standard:
Level:

FOCUS AREA	EVIDENCE / EXAMPLES	DESCRIPTION/ EXPLANATION
Evidence of facilitator preparation		
Teaching and Environmental learning support materials Methods Used		
Activities used why		
How learners were participating in what they were doing		
Questions asked by the teacher and responses of learners		
Environmental Questions asked by the teacher and responses		
Questions asked by the learners & why		
Environmental Questions asked by the learners?		
Group activities & how the learners learn		
Questions of learners to each other		
How the learners interacted with each other		
The teacher' s relationship with the learners		
How the environment was used as a stimulus material		

APPENDIX 4: OBSERVATION TRANSCRIPTION –DAY 1 12/07/2010

Unit standard 8416 - value system

1. Teacher explains: it is the idea of right and wrong. Everybody has a different idea about right or wrong.
2. It may be caused by his background and where he grew up.
3. They start by what we do.
4. We do things and out of that doing we have a result though sometimes we do not agree on ways we see things.
5. Let us look on page 60 there is a picture of two men. They are heating each other by their heads.
6. That shows that they do not agree- bangqubuzana ngemibono – their ideas are conflicting – their values do not agree.
7. Teacher read from the learner book; you have to make decisions.
8. Decide what is right or wrong.

9. What to remember is that you need to live with the results of the decisions you make.
10. You must be honest with yourself why you made that decision.
11. You need to know yourself so that you know why you do certain things.
12. You need to be sensitive to your need and those of the people around you.
13. Teacher makes an example. I grew up in the rural areas of Kwa- ZuluNatal.
14. In KZN the women are not allowed to stand up and speak in community meetings.
15. They have no freedom of speech.
16. Now an elderly father from that back ground goes to a meeting in Johannesburg.
17. There is no such thing in Jo'burg .
18. The women stand in meetings and talk.
19. They have a freedom of speech unlike in KZN. He is shocked.
20. We call these things ethical dilemmas one needs then to be sensitive the needs of others and do not do things that will harm them and the environment.
21. One needs to consider what value conflicts are there, consider possible choices, whatever decision you make be sure that you reason.
22. Decide on the right things to do and think before you do.
23. Teacher: refers the learners to an exercise on the learnerbook.
24. Learners read :" Bonginkiosi is a conservationist at a nature reserve.
25. He is one of the lucky ones as unemployment is very high in the area. He has been doing this job for a year now.
26. The reserve is home to many natural flora.
27. His job involves taking guests on walks around the reserve and giving talks on the natural flora.
28. He knows that it is illegal for any one to pick up any natural flora.
29. The flora is part of the natural heritage of the area.
30. There are heavy fines for anyone caught picking or damaging the flora- they may even go to jail.
31. Over the past weeks the management has noticed that certain protected plants have been removed.
32. These plants are sold to interested parties.
33. The management has asked Bonginkosi to the situation.
34. They are sure that some of the local people living just outside the reserve are involved.
35. Also lives amongst the local community.
36. During his investigation, he has been accused of turning his back on the needs of his community for enforcing conservation law.
37. Last night his family was threatened.
38. He is very upset because he does not know what to do.
39. After the reading of Bonginkosi's dilemma the teacher continues;
40. Teacher: Think as if you are BongiNkosi. Put yourself in BongiNkosi's shoes.
41. You are hired in Mtamvuna game reserve and the things which happened with Bonginkosi happens with you.
42. You grew up in this community you have been picking up the plants and hunting the animals in the reserve.
43. There is lack of employment and you are fortunate enough to get employment in the reserve.
44. You need to protect the plants and animals.
45. The people will see you as Impimpi (sell out) that now you teamed with the White people against us.
46. What will you do ? The manager discovers that some if the plants have been snatched from the game reserve.
47. You are staying in the community and you need to know the people doing those thing.
48. Teacher :You need to make a decision of what you will do:
49. Do you want to loose your job?
50. Do you want to loose your family or your family to suffer for the rest of their lives?
51. Do you want the plants and the animals to go on extinction
52. Teacher: Make a decision on what you will do in this situation.- you need no take your decision light. Gave them 30 minutes to work on this
53. Learners ; busy reading on the books not talking to each other
54. Mfundi : requested the teacher to ask them to talk to each other and discuss.
55. Teacher : we need to start by making decisions .
56. First think what decision do you make, why, what do you think will be result of your decision
57. Teacher asked them their decisions one by one
58. What is your decision:
59. Babalwa; can report the people to the manager
60. Nandipha: can report it

61. I shall report --- I shall report. 12 out of the class of 14 said they will report it to the Manager and to the police
62. Nkululeko; Said he wont report /
63. Mfundi ; I wont report
64. Teacher : Why do you want to report ? they make a decision to report
65. Student 1. If I do not report I shall loose my job?
66. Teacher:Are you not afraid of what will happen to your community, family if you report?
67. Student 2; I shall take them to the Manager and ask the Manager to call the police
68. Teacher: Something need to be corrected here, if you are a Field ranger you do not even need to call the police you are a police yourself in the nature reserve you can arrest the people yourself. Why decision to report?
69. Student 3; I shall report them because nature is important
70. Student 4; report to Manager. Move up and down the reserve and see if plants are protected.
71. If do not report manager will feel bad about me and think I am not doing the job
72. Student 5; I can report the people who stole the plants .
73. Teacher : What will happen to you if you do this?
74. Learner 5 : People of the community will have a problem with me .
75. They can also harm my family but I need my job. I need my income, I need the plants , nature and the trees in the game reserve. They help us to make medicines.
76. Mfundi: If you say you report because nature is important Is that going to solve the problem of nature? What does the Manager want? Does he want the people to go to jail or to save the plants?
77. Teacher: Most of the plants in the EC are at the verge of extinction. They have been put in the list of red label plants. What will you do?
78. Learner 6: I will not report . If I report my life, my family, the plants and the animals in the reserve as well as my job will be at stake.
79. I shall try another plan. I shall organise meetings with my community.
80. I shall talk to them about the importance of the different types of plants in the reserve and their uses, now and in the future; from that they will learn that it is important not to remove the plants
81. Student 6; what will you say to the Manager, then because the Manager is saying the plants has been snatched now? What about your job?
82. Student 7; This is not new, before the erection of the reserve the community was called together.
83. It was explained to them that they will no longer go on with the activities they used to do in the game reserve. They will not fetch wood, will not hunt, need not take out anything out of the reserve plants, flowers, stones.
84. Student 8; I can make research and go to the community. I can first make them understand about nature, and then tell them it is not a good thing to kill wild animals. I shall tell them that I shall report them if they continue because I will loose my job if I do not do so.
85. Teacher; that is important do you think that was enough? Nkululeko has introduced the idea of conservation awareness.
86. The reserve needs to have community conservation policies and Conservation Community officers to discuss the reserve related issues with the communities. Communication is important between the reserve and the community.
87. We need to discuss with the community. Sometimes the community take out plants from the reserve deliberately because they are complaining about something, some times tired about this area which is no go area.
88. We need to teach the people about conservation- conservation does not mean not to use but means wise use of natural resources so as to ensure sustainability for income generation and future generation. We do this to generate income and to protect our wildlife
89. Student – can you explain sustainability?- we are using natural resources cleverly Siyayonga (we keep it so that it has a consistent resistence)
90. MFUNDI : why then do we have Mthamvuna Reserve?
91. Student: it has been erected so that we can conserve the plants and animals in it so that even the future generations can see them.
92. Teacher: It is also erected for community levy; income generation to assist the communities with money for crèches and projects in the community.
93. What is important is that communities need to appreciate the conservation facility/reserve so that in future it can help their children.
94. It is so bad and sorry and sad to loose the animals and plants in an area. Gave examples of animals in extinction e,g. Dodos in Mauritius>

95. If they are extinct we and our future generations will never see them again- So in decisions we make we need to think about others.

APPENDIX 5 : OBSERVATION TRANSCRIPTION - DAY 2 : US 8331- COMBAT SOIL EROSION

13/07/2010

1. Facilitator: reads from the learner book and explains in the mother toungue.
2. Conservation is the wise use of resources to ensure sustainability.
3. Learner; Can you explain to me , I do not understand sustainability:
4. Teacher : Kukusetyenziswa kwendalo, kodwa yongiwe ingagqitywa.(It is the use of resources conserving it so that it becomes available even tomorrow and in the future.
5. Facilitator: Ecology is the study of living and non-living in their own environment.
6. Frogs lay their eggs in water – someone who want to learn about frogs will learn a lot frogs in the water- that is their ecosystem. Sometimes one goes to study the animals on the mountain; for animals on the mountains that is their ecosystem and they relationships and interrelationships in the environment.
7. Facilitator asks a question: What are the natural resources?
8. Learners: fauna, flora, water soil
9. Facilitator: What are man made resources? The facilitator is drawing information from the learners.
10. Facilitator: Some of the resources act as natural attractions for tourists in South Africa:
11. Facilitator: Which natural attractions attract people to South Africa
12. Facilitator : Which rivers act as tourist attractions? e.g Zambesi, Nile, Vaal
13. Mfundi- but Zambesi and Nile are not in South Africa. – Zambesi is in Zimbabwe and the Nile is in Egypt
14. Facilitator: Truly we are referring to Southern Africa which has a landscape of about 3.5 million square Km. Southern Africa takes and encompasses countries like Swaziland, Lesotho, Botswana and Namibia.
15. Facilitator: Which waterfalls are prominent main attractions in Southern Afica : Victoria fall
16. What are other water falls that attract tourists?
17. Mfundi: Augrabies on the Orange river, Tsitsa falls in Qumbu
18. Facilitator ;Other Tourist attractions are the national parks and the reserves.

e.g Kruger National park
Isimangaliso Wetland Park
Addo National park and other national park with the big five
Wild Coast.

19. Learners: there is nothing special about the wild coast
20. Facilitator: To you locals you see nothing but for tourists it is one of the best landscapes in the world. It bears all its natural features
21. Facilitator: What are the things that need to be preserved & why (
22. They need to be preserved so that they do not become non-existent. Being non-existent means they are extinct.
23. Facilitator: Why should we preserve rhinos (black and white)
24. Facilitator :They are killed for their ivories. The ivories when sold are very expensive. One can make a lot of money out of them

There are two rhino species
The black is a browser it has a flat mouth
The white is a grazer

25 .Facilitator: Why do we protect the air?
26. Learners: We need it for breathing.
27. Facilitator: What are the things that pollute the air?
28. In the urban areas: fumes from cars
Smoke from factories

29. In the rural areas?
Veld fires
Smoke from wood /fuel used for cooking
30. Air in the rural areas is clean as compared to the urban areas
31. We need to protect our birds – They give us a lot of information about natural phenomena
32, They inform us when there are dangerous animals coming to destroy us.

33. Whey should we preserve trees- for furniture, fruits, fire, timber and oxygen.

34. Facilitator: Asked the learners if they know the carbon sinks?
35. He explains trees help to absorb carbon in the atmosphere. Carbon sinks into plants. Why does it sink into plants?
36. Plants use carbon to manufacture their own food. Trees help the carbon to sink in trees.
37. Trees and plants release oxygen which is used by animals for breathing.
38. We need to plant a lot of trees so that they act as the sink for carbon as it is dangerous for the environment. It causes global warming.
39. Facilitator: Why do we need to protect our birds? – Tell us a lot of information e.g seasons, eagrets give us information that there are predators around
40. Facilitator: Why do we need to protect the minerals? –
41. Learners : Job creation and Money,
42. Facilitator: Why do we need to protect worms? –
43. Learner : For feeding birds, decomposing the soil.
44. Facilitator :Why do we need to protect trees? –
45. Learner: Furniture, oxygen, act as carbon sink,fruits, timber, used as fuel
46. Facilitator: How do you see that the soil is clean by the – by the earthworm drops
47. Facilitator: How do you see the that the air is clean – by lichen on trees and old man' beard
48. How do you see that the water is clean- by the growing of reeds.
49. The facilitator went out to the nature reserve and the river with the learners to observe the different types of the natural resources.

Went out for field work.
Back from fieldwork they went for lunch
After lunch they were divided into groups to prepare presentations on what they have observed when they went out for field work.

Group 1
The whole group would go to the front. They would introduce themselves and one of them presents.
50 : learner :In the river we have seen the reeds.
51. They are indigenous plants.
52. They save the sand and the soil.
53, They have roots in the form of a net. They clean the water. They help the fishes, water animals and water plants to get clean water and food.
54. They are used for being put on the roof of huts before putting the grass.
55. Facilitator interpreted that, is thatching

Group 2.
56. Outside we have observed that there are two different types of trees indigenous and Alien plants.
57.Indigenous plants are trees from here and Alien plants are introduced. They may be introduced by birds.
58. Examples of alien plants are:
Tickberry
Black Wattle
Wild Banana
Prickle pair.
59. Observed different types of grass namely: Red top grass and reeds.
60. Reeds show that the quality of the water is good.
61. They have roots nets to clean water so that fishes and animals can breathe properly. 62. They prevent siltation and pollution..
63. When the water is polluted plants and animals die and spoil the quality of the water

Group 3: Observed our natural resources
64. Indigenous plants prevent the soil weathering process.
65. In the water in the river there are reeds. Reeds help to protect the fish during siltation.
65. Saw red top glass and alien plants e.g tickberry, pricle pear, Black Wattle,
66. Black wattle is used for wood and fuel in our homes
67. Umchakuva is a medicine for animals cattle and sheep while they are sick.
68. Isihlobotshane – useful for its fruit It bears fruits which become red while ripe
69. Reeds – used for ukufulela (thatching the roofs of huts). Protect dirt from reaching the water animals at the time of siltation

Facilitator instructed them to work on their POEs

APPENDIX 6: TRANSCRIPTION OF CLASS OBSERVATION - DAY 3 14/07/2010 : US 8330 COMBAT PROBLEM PLANTS

1. Each day commences with the checking of the POE
2. Facilitator instructed the learners to turn to page 212 of the learner guide
3. Form pairs and read the dialogue to each other
4. Learners read aloud the dialogue in page 212
5. Visitor: what are problem plants?
6. Conservationist: Problem plants are the same as alien plants
7. Visitor: Alien? What like aliens from space?
8. Conservationist: No, not at all, not those aliens, alien plants! We look at the green world out there and say plants …… they are all the same but they are not!
9. Some plants are beneficial to the department and others aren't. That is where alien plants come into the picture.
10. Alien plants are not beneficial to the environment
11. Visitor: I understand that but I still don't know what an alien plant is!
12. Conservationist : Well, just like aliens come from other planets –
13. Alien plants have been brought from other countries or other areas in South Africa. They are declared weeds.
14. Facilitator read pages 213 -214 and interpret into mother tongue
15. Facilitator: Weeds are plants which may not be grown and must be destroyed
    triffid wee*d- sandanezwe*
    tickberry- *ukhwebezana*
    bugweed – *umthuma*
16. Facilitator: Invader plant with commercial or utility value which may only be grown with a permit under controlled activities:
    - Gum trees
    - Guava
    - Castor oil plant – umpono
17. Facilitator; Invader plants which are ornamental value which may be grown but not propagated, traded, or imported.
18. May not be grown 30 metres from water.
19. Brought from other countries as garden plants
20. Brought in as insect repellents

Facilitator divided the class into 4 groups.
Distributed the flip charts. Requested each group to work on the exercise on page 215.
They need to discuss the why alien plants are a threat to the environment and write their points in the flip charts
The 4 groups worked in the groups

Break
After break presentations commenced.

Presentations:
Groups were called to the front. Introduce themselves. One does the presentation and they are asked questions and respond to questions.

GROUP A – represented by Nandipha

21. Learner : Threats caused by Alien Plants
22. Increase the siltation of dams and estuaries
23. They use 7% of SA 's water
24. Increase the extinction of of indigenous plants and animals
25. Absorb a lot of water and leave the animals with no water
26. Cause soil erosion
27. Reduce our ability to farm

Questions to the group

28. Learner :What is siltation ?
29. Answer from group A :(kuncipha amanzi kwande udaka) the water decreases & mud increases
30. Question; How do alien plants increase that siltation of dams/ that mud –
31. Group representative : They absorb a lot of water and the amount of water decreases.

GROUP B

32. They use 7% of SA 's water
33. Reduce our ability to farm
34. Increase destruction of rivers
35. Increase fire risk
36. Increase the siltation of dams and estuaries
37. Decrease the quality of water

38 .Question: How do they do all the things above
39. They were unable to answer.
40. Mfundi: Did you discuss these things or just wrote the list from the learner book.
41. Learner : No answer

42. Facilitator explains how alien plants are a threat to the environment?
43. Alien trees form a dense cover. Sunlight is unable to infiltrate through these dense leaves. The vegetation below the trees dies. . The soil is exposed to the sun and looses its pores.
44. Soil erosion takes place. Water carries the silt to the rivers &dams. The amount of mud increases . Kills the indigenous and water animals as they are adapted to stay in water not in mud.
45. They produce fumes which increases the fire blazes in winter. They disturb the PH of the soil

GROUP C

46. Reduce our ability to farm
47. Increase the siltation of dams and estuaries
48. Increase the extinction of indigenous plants and animals
49. Absorb a lot of water and leave the animals with no water
50. Cause soil erosion
51. Absorb water for indigenous plants and animals Increase the extinction of of indigenous plants and animals
52. Absorb a lot of water and leave the animals with no water
53. Cause soil erosion

54, Asked the same question of (how?) Answered as an explanation had been made by the facilitator

GROUP D

54. Reduce our ability to farm
55. Increase the flooding
56. Use 7% of SA water
57. Decrease the quality of water
58. Take big space in our place
59. Interfere with the quality of our water
60. Cause destruction of rivers
61. Absorb a lot of water and leave the animals with no water

62. Facilitator: How do they interfere with the quality of our water?

64. Learner answers: The mud changes the colour of the water.

65. Facilitator adds: In some areas alien plants like water hyacinth grow and form a cover on top of the water. It prevents the sunlight from penetrating the water.
66. The indigenous plants and animals in the water die and rot interfering with the quality of water.
67.Algae develops in the water

68. How do they reduce the ability to farm?

69. Learners: Their roots spread in the soil taking away a lot of water
70. They accelerate soil erosion and remove the fertile top soil

71. Facilitator explains more: The alien plants (ziyaminyana) become dense
72. The plants that bind the soil die as they do not get enough sunlight. The soil becomes exposed to the heat of the sun.
73. When the rains and the wind come soil erosion becomes easy. Soil erosion is accelerated.

74. Heat closes the pores and the soil stops being a sponge. When rain comes it is unable to penetrate the soil, Causing (imisele) because of the speed and the pressure of the water. When the processes accelerate they cause dongas
75. Because there was no vegetation the sun got a chance to spoil the soil. No plants can grow as the top soil is removed.
76. What are other causes of soil erosion?
77. Excessive use of herbicides, manure and leaves of indigenous plants spoil the PH of the soil
78. Pollution – elements that take time to decompose like plastic and egg shells spoil the PH of the soil.
79. Veld fires expose the soil to the heat of the sun
80. Learners were given break after the discussion. –went for lunch.
After lunch – the groups had to do exercise on page 222 and compose songs on alien plants.

APPENDIX 6B : OBSERVATIONS ANALYTIC MEMO

4.2CONTEXT	**0B1**	**OB2**	**OB 3**
4.2.1 Policy Context			
4.**2.2 Historical Context** **Treating a reserve as a no go area & seeing reporting as the only route to take**	Teacher asked them their decisions one by one OB1 : 57 - 61 OB1 :57What is your decision: OB1: 58 Babalwa; can report the people to the manager OB1 : 60 Nandipha: can report it I shall report --- I shall report. OB: 61 12 out of the class of 14 said they will report it to the Manager and to the police OB1 : Student 7; This is not new, before the erection of the reserve the community was called together. It was explained to them that they will no longer go on with the activities they used to do in the game reserve. They will not fetch wood, will not hunt, need not take out anything out of the reserve plants, flo		
4.2.3 Physical Context **conserve the plants and animals in it so that even the future generations** **generation to assist the communities with money for crèches and projects in the community.**	OB: 90 MFUNDI : why then do we have Mthamvuna Reserve? OB1: 91Student: it has been erected so that we can conserve the plants and animals in it so that even the future generations can see them. OB:92 Teacher: It is also erected for community levy ; income generation to assist the communities with money for crèches and projects in the community.		

4.2.4 Economic Context **Jobs** **for community levy** **to assist the communities with money for crèches and projects in the community.**	OB1 : 64 Teacher : Why do you want to report ? they make a decision to report OB1: 65 Student 1. If I do not report I shall loose my job OB1: 81 Student 6; what will you say to the Manager, then because the Manager is saying the plants has been snatched now? What about your job? OB1: OB1: 92Teacher: It is also erected for community levy ; income generation to assist the communities with money for crèches and projects in the community.		
4.2.5 Education and Training system functioning	Value systems Conservation value dilemmas	Natural resources	Combat Problem plants & Combat soil erosion
4.2.6 Other			
4.3 WHAT THEY LEARN			
4.3.1Knowledge / content **Concepts** • **Sustainability** • **Conservation** • **Extinction** **The importance of Communication between Nature reserves and communities around them** **Ecology** **ecosystems** **USES of Natural resources-Tourist Attractions** **Geographical areas of the Tourist attractions** **Went out for field work** **Discussed with learners the different types of trees** **Indegenous and Alien plants** **Uses of different types of trees**	OB1: 85 Teacher; that is important do you think that was enough? Nkululeko has introduced the idea of conservation awareness. OB1; 86The reserve needs to have community conservation policies and Conservation Community officers to discuss the reserve related issues with the communities. Communication is important between the reserve and the community. OB1: 87 We need to discuss with the community. Sometimes the community take out plants from the reserve deliberately because they are complaining about something, some times tired about this area which is no go area. OB1: 88 We need to teach the people about conservation- conservation does not mean not to use but means wise use of natural resources so as to	OB2: 4 Teacher : Kukusetyenziswa kwendalo, kodwa yongiwe ingagqitywa.(It is the use of resources conserving it so that it becomes available even tomorrow and in the future. OB2: 5 Facilitator: Ecology is the study of living and non-living in their own environment. OB2; ^Frogs lay their eggs in water – someone who want to learn about frogs will learn a lot frogs in the water- that is their ecosystem. Sometimes one goes to study the animals on the mountain; for animals on the mountains that is their ecosystem and they relationships and interrelationships in the environment OB2: 11Facilitator: Which natural attractions attract people to South Africa OB2: 12 Facilitator : Which rivers act as tourist attractions in South Africa? e.g Zambesi, Nile,	OB3:1Learners read aloud the dialogue in page 212 OB3: 2Visitor: what are problem plants? OB3:3Conservationist: Problem plants are the same as alien plants OB3: 4 Visitor: Alien? What like aliens from space? OB3: 5 Conservationist : No, not at all, not those aliens, alien plants! We look at the green world out there and say plants …… they are all the same but they are not! OB3: 6 Some plants are beneficial to the department and others aren't. That is where alien plants come into the picture. OB3: 7Alien plants are not beneficial to the environment OB3: 8Visitor: I understand that but I still don't know what an alien plant is! OB3:9 Conservationist : Well, just like aliens come from other planets – 0B3: 10 Alien plants have been brought from other countries or other areas in South Africa. They are declared weeds.

	ensure sustainability for income generation and future generation. We do this to generate income and to protect our wildlife	Vaal OB2: 13 Mfundi- but Zambesi and Nile are not in South Africa. – Zambesi is in Zimbabwe and the Nile is in Egypt OB2: 14 Facilitator: Truly we are referring to Southern Africa which has a landscape of about 3.5 million square Km. Southern Africa takes and encompasses countries like Swaziland, Lesotho, Botswana and Namibia. OB2: 1 5 Facilitator: Which waterfalls are prominent main attractions in Southern Africa : Victoria falls OB2: 16 What are other water falls that attract tourists? OB2 : 17 Mfundi: Augrabies on the Orange river, Tsitsa falls in Qumbu OB2 : 18 Facilitator ;Other Tourist attractions are the national parks and the reserves. e.g Kruger National park Isimangaliso Wetland Park Addo National park and other national park with the big five Wild Coast.	
4.3.2 Skills **Communications** **Ability to judge situations and make decisions** **Identification of trees (OB2)** **Observation skills** **Reading skills** **Presentation skills** **Public speaking skills** **Abilities to work in groups**	OB1; 86The reserve needs to have community conservation policies and Conservation Community officers to discuss the reserve related issues with the communities. Communication is important between the reserve and the community.	OB2: 49The facilitator went out to the nature reserve and the river with the learners to observe the different types of the natural resources Group 1 The whole group would go to the front. They would introduce themselves and one of them presents. OB2:50 : learner :In the river we have seen the reeds. OB2:51. They are indigenous plants. OB: 52. They save the	OB3:1Learners read aloud the dialogue in page 212 OB3: 2Visitor: what are problem plants? OB3:3 Conservationist: Problem plants are the same as alien plants OB3: 4 Visitor: Alien? What like aliens from space?

		sand and the soil. OB:53, They have roots in the form of a net. They clean the water. They help the fishes, water animals and water plants to get clean water and food. OB:54. They are used for being put on the roof of huts before putting the grass. OB :55. Facilitator interpreted that, is thatching	
4.3.3 Values **Caring** **Equity** **Respect for environment** **Respect for each other** **The idea of right or wrong** **Importance of all languages**	.		
4.3.4 Attitudes	OB1 :93 What is important is that communities need to appreciate the conservation facility/reserve so that in future it can help their children.		
4.3.5 Other			
4.4 HOW THEY LEARN			
4.4.1 Educators'roles, actions and practices **Teacher explains in mother toungue** **Makes examples** **Uses metaphors** **Teacher reads and interprete problem words into mother tongue** **Give learners chance to think** **Lead the discussion by questions** **Make illustrations** **Inculcation conservation values** **Question and answer (OB2)** **Dialogue- learners not empty buckets()B2)**	OB1: 1 Teacher explains: it is the idea of right and wrong OB 1 : 6 That shows that they do not agree- bangqubuzana ngemibono – their ideas are conflicting – their values do not agree OB1 :7 Teacher read from the learner book; you have to make decisions. OB1 : 8 Decide what is right or wrong OB1 : 13 Teacher makes an example. I grew up in the rural areas of Kwa-ZuluNatal 0B1: 40 Teacher: Think as if you are BongiNkosi. Put yourself in BongiNkosi's shoes. OB1: 41You are hired in Mtamvuna game reserve and the things which happened with Bonginkosi happens with you. OB1: 52 Teacher: Make a decision on what you will do in this situation.- you need	OB2 : 1Facilitator: reads from the learner book and explains in the mother toungue OB2: 11Facilitator: Which natural attractions attract people to South Africa OB2: 12 Facilitator : Which rivers act as tourist attractions in South Africa? e.g Zambesi, Nile, Vaal OB2: 13 Mfundi- but Zambesi and Nile are not in South Africa. – Zambesi is in Zimbabwe and the Nile is in Egypt OB2: 14 Facilitator: Truly we are referring to Southern Africa which has a landscape of about 3.5 million square Km. Southern Africa takes and encompasses countries like Swaziland, Lesotho, Botswana and Namibia. OB2: 1 5 Facilitator:	OB3; 14 Facilitator read pages 213 -214 and interprete into mother tougue OB3 : 15 Facilitator: Weeds are plants which may not be grown and must be destroyed triffid weed- sandanezwe tickberry- ukhwebezana bugweed – umthuma etc OB3;42. Facilitator explains how ? OB:43. Alien trees form a dense cover. (ziyaminyana) Sunlight is unable to infiltrate through these dense leaves. The vegetation below the trees dies. . The soil is exposed to the sun and looses its pores. OB3: 44 Soil erosion takes place. Water carries the silt to the rivers &dams. The amount of mud increases . Kills the indigenous and water animals as they are adapted to stay in water not in mud. OB3:45. They produce fumes

Threats of conservation of natural resources in both rural & urban areas (OB2) **Explains carbon sinks** **Took the learns to the river and the nature reserve for fieldwork** **Threats and problems of problem plants and soil erosion (OB3)**	no take your decision light.	Which waterfalls are prominent main attractions in Southern Afica : Victoria falls OB2: 16 What are other water falls that attract tourists? OB2 : 17 Mfundi: Augrabies on the Orange river, Tsitsa falls in Qumbu OB2 : 18 Facilitator ;Other Tourist attractions are the national parks and the reserves. e.g Kruger National park Isimangaliso Wetland Park Addo National park and other national park with the big five OB2: 34Facilitator: Asked the learners if they know the carbon sinks? OB2: 35 He explains trees help to absorb carbon in the atmosphere. Carbon sinks into plants. Why does it sink into plants? OB2: 36 Plants use carbon to manufacture their own food. Trees help the carbon to sink in trees. And release oxygen OB2: 49The facilitator went out to the nature reserve and the river with the learners to observe the different types of the natural resources	which increases the fire blazes in winter. They disturb the PH of the soil
4.4.2 Learners'responses /practices **Learners read aloud from the learnerbook** **Learners asks questions when they do not understand** **They are free to ask questions** **Involved in decision making**	OB1: Learners read aloud :" Bonginkosi is a conservationist at a nature reserve. (exercise in the learnerbook) OB1: 52 Babalwa; can report the people to the manager OB1: 52 Babalwa; can report the people to the manager	OB2 : 3 Learner; Can you explain to me , I do not understand sustainability: From OB2: 24 – OB2:46 OB2: 25 Facilitator: Why do we protect the air? OB2: 26. Learners: We need it for breathing. OB2 :27. Facilitator: What are the things that pollute the air? OB2: 28. In the urban areas: fumes from cars	OB3:1Learners read aloud the dialogue in page 212 OB3: 2Visitor: what are problem plants? OB3:3Conservationist: Problem plants are the same as alien plants OB3: 4 Visitor: Alien? What like aliens from space? GROUP A – represented by Nandipha OB3; 21 Learner :

Express their concerns and give reasons **Showed importance of communication with communities (OB1)** **Went out for field work to identify the plants in the reserve(OB2)** **Prepared presentations in groups** **Made presentations in class** **Shared information Shared the traditional uses of plants with each other and the facilitator** **Shared knowledge on trees**	OB1 : 54- 82 Nandipha: 96. Mfundi: If you say you report because nature is important Is that going to solve the problem of nature? What does the Manager want? Does he want the people to go to jail or to save the plants? 97. Teacher: Most of the OB1 : 78 – 79 Nkululeko: I will not report . If I report my life, my family, the plants and the animals in the reserve as well as my job will be at stake. OB1 : 80 I shall try another plan. I shall organise meetings with my community. OB1 : 81 I shall talk to them about the importance of the different types of plants in the reserve and their uses, now and in the future; from that they will learn that it is important not to remove the plants	Smoke from factories Group 1 The whole group would go to the front. They would introduce themselves and one of them presents. OB2:50 : learner :In the river we have seen the reeds. OB2:51. They are indigenous plants. OB: 52. They save the sand and the soil. OB:53, They have roots in the form of a net. They clean the water. They help the fishes, water animals and water plants to get clean water and food. OB:54. They are used for being put on the roof of huts before putting the grass. OB :55. Facilitator interpreted that, is thatching Group 3: Observed our natural resources OB:64. Indigenous plants prevent the soil weathering process. OB: 65. In the water in the river there are reeds. Reeds help to protect the fish during siltation. OB:66. Saw red top glass and alien plants e.g tickberry, pricle pear, Black Wattle, OB:67. Black wattle is used for wood and fuel in our homes OB:68. Umchakuva is a medicine for animals cattle and sheep while they are sick. OB: 69. Isihlobotshane – useful for its fruit It bears fruits which become red while ripe OB:70. Reeds – used fro ukufulela (thatching the roofs of huts). Protect dirt from reaching the water animals at the time of	Threats caused by Alien Plants OB3: 22 Increase the siltation of dams and estuaries OB3: 23 They use 7% of SA ‘s water OB3: 24 Increase the extinction of of indigenous plants and animals OB3 : 25 Absorb a lot of water and leave the animals with no water OB3: 26 Cause soil erosion OB3 : 27 Reduce our ability to farm Questions to the group OB3 : 28Learner :What is siltation ? OB3: 29Answer from group A :(kuncipha amanzi kwande udaka) the water decreases & mud increases 0B 3; 30 Question; How do alien plants increase that siltation of dams/ that mud – OB3 : 31Group representative : They absorb a lot of water and

		siltation	
4.4.3 Interaction processes **Answer questions** **They are involved in a dialogue /discussion** **Share their previous experiences** **Made to understand alien plants through a dialogue (OB3)** **Question and answer** **Went out of class to the nature reserve- inteact and observe the different types of plants** **Discussed in groups** **Developed presentations on their observations** **Presented the presention in class**	OB1: 52 Babalwa; can report the people to the manager OB1 : 54- 82 Nandipha: OB 1: 77 Teacher: Most of the plants in the EC are at the verge of extinction. They have been put in the list of red label plants. What will you do? OB1 : 78 Student 6; what will you say to the Manager, then because the Manager is saying the plants has been snatched now? What about your job? OB1 : 82 Student 7; This is not new, before the erection of the reserve the community was called together. OB1: 83 It was explained to them that they will no longer go on with the activities they used to do in the game reserve. They will not fetch wood, will not hunt, need not take out anything out of the reserve plants, flowers & stones. OB1 : 78- 80 Nkululeko: I will not report . If I report my life, my family, the plants and the animals in the reserve as well as my job will be at stake. OB1; 79 I shall try another plan. I shall organise meetings with my community. OB1 : 80 I shall talk to them about the importance of the different types of plants in the reserve and their uses, now and in the future; from that they will learn that it is important not to remove the plants	OB2 : 3 Learner; Can you explain to me , I do not understand sustainability: From OB2: 24 – OB2:46 OB2: 25 Facilitator: Why do we protect the air? OB2: 26. Learners: We need it for breathing. OB2 :27. Facilitator: What are the things that pollute the air? OB2: 28. In the urban areas: fumes from cars Smoke from factories Group 1 The whole group would go to the front. They would introduce themselves and one of them presents. OB2:50 : learner :In the river we have seen the reeds. OB2:51. They are indigenous plants. OB: 52. They save the sand and the soil. OB:53, They have roots in the form of a net. They clean the water. They help the fishes, water animals and water plants to get clean water and food. OB:54. They are used for being put on the roof of huts before putting the grass. OB :55. Facilitator interpreted that, is thatching Group 3: Observed our natural resources OB:64. Indigenous plants prevent the soil weathering process. OB: 65. In the water in the river there are reeds. Reeds help to protect the fish during siltation. OB:66. Saw red top glass and alien plants e.g	OB3:1Learners read aloud the dialogue in page 212 OB3: 2Visitor: what are problem plants? OB3:3Conservationist: Problem plants are the same as alien plants OB3: 4 Visitor: Alien? What like aliens from space?

		tickberry, pricle pear, Black Wattle, OB:67. Black wattle is used for wood and fuel in our homes OB:68. Umchakuva is a medicine for animals cattle and sheep while they are sick. OB: 69. Isihlobotshane – useful for its fruit It bears fruits which become red while ripe OB:70. Reeds – used fro ukufulela (thatching the roofs of huts). Protect dirt from reaching the water animals at the time of siltation	
4.4.3 Assessments			
4.4.4 Assessment			
4.5ASSUMPTIONS			
4.5.1Learner assumptions			
4.5.2Educator Assumptions			
4.5.3 Institutional/ systemic assumptions	Learners understand English- All materials are in English		
4.5.4 Programmatic Assumptions	Learners understand English- All materials are in English All the learners are workers in the project		
Employment /workers Assumptions			

APPENDIX 7: QUESTIONS FOR THE FOCUS GROUP INTERVIEWS

Introduce the purpose of the meeting to the class / group

1. Explain to the group what is your job in the project (explain one by one)
2. Why did you attend this course?
3. What did you learn in class today?
   why
4. From who did you learn it? Did you learn it
- from the facilitator
- from your interaction with the group ?
- from the practical (interaction with the environment) ?
- from each other
- From the activities

5. How is it useful to you? / What was useful to you in the lesson ?
- Is it useful to you in the project (For you to work better in the park?)
- Is it useful to you for your everyday life

6. What makes it useful to you?
7. Given a chance to change what would you change?

APPENDIX 8 : FOCUS GROUP INTERVIEW 1 12/07/2010

1. Explain what your job in the project is.
2. We are not working in the project. I worked for one month I am no longer working
3. What did you learn in class today?
4. Learner 1: I have learnt the importance of communication between communities surrounding the nature reserves and the workers working in the nature reserves.
5. I must not start by reporting the problems in the nature reserves to the police.
6. I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve.
7. Learner 2 ; Learned about the importance – *kukongiwa kwendalo- isetyenziswe indalo kodwa isetyenziswe kakuhle ukuze incede nabezayo* (Sustainability) resources in the environment can be used but not to the finish so that even the future generations can see and benefit from them.
8. Learner 3 : learnt that the resources in the nature reserve can be used to protect the animals and plants for future use
9. For growth of income
10. Plants at certain times can be sold to doctors.
11. The money received can be used to support community activities like crèches in the community.

APPENDIX 9 :FOCUS GROUP INTERVIEWS DAY 2 13/07/2010

1. What is your job in the project.
2. The learners explained that they are not working in the project. They once worked in the project but now no longer working.
3. Other one is it possible when you are working to be told that you need to stop while others you were hired with are still continuing?
4. How were you chosen for this course if you are not working in the project?
5. We attended a course in January and we were told that we must register our names and wait if our names come out we shall be invited for another course
6. Do you like this course?
7. Learner 1; Yes- it will open a chance for we to get a work in this game reserve and others.
8. It will assist me to get work in the environment sector
9. Learner 2; I do not like this course. It needs one to do a lot of talking. I do not like work like that. I like housekeeping (hospitality) better because I will do a lot of work by myself.
10. What have you learned today?
11. L earner 1 - Learned the different types of grass and their importance.
12, The fact that reeds show that the river is healthy and the water is clean.
12. The fact that its roots clean the water. Catches the foreign objects & prevents them from getting into the water
12. It protects the water animals and plants
13. Learner 2; The importance of plants both alien and indigenous plants
14. The origins of the alien plants- also brought by birds.
15. Learner 3; The fact that these introduced plants are retarding the growth of the indigenous plant as they absorb a lot of SAfrican water and cause others not to grow.
16. Question: From whom did you learn these things
17. Learner 1; From facilitator.
18. Learner 2; No we knew most of the names of these plants but we did not know them in English. The facilitator gave us the English names. We learnt from the facilitator and from each other.
19.Did you learn anything by going out for field work ?
20. Learner 3: We shared with the facilitator our own traditional uses of the plants.
21. Learner 4 yes we were not going to see these trees if we stayed here in class.
22. Learner 5; We were going to think that they are new things; when we went out for field work we realized that we know others as we called them by our African names.

23. Did you learn anything from the presentations;
24. Learner 6- yes learned the importance of standing in front and talk to the people/public.
25. Learned that we need to speak loudly/ voices need to be audible. Not put hand on the mouth and face
26.Learner 7: Realised the importance of speaking, reading and writing
27. How was this knowledge useful to you?
28. Learner 8 It can assist me to get a job. It will assist me to teach the Tourists about our local plants, trees and their uses.
29.Given a chance what would you change in this course.
30. Learner 9 : I would decrease the amount of assignments and homeworks

APPENDIX 10: FOCUS GROUP INTERVIEWS DAY 3: 14/07/2010

Introduce the purpose of the meeting to the class / group

2. Explain to the group what is your job in the project (explain one by one)

2. The learners in the course are not working in the project. They belong to the community in which the project is situated.

3. Why did you attend this course ?

4. Our names came out of the list for people to be trained in this course.

5. What did you learn in class today?

6. learned about indegenous and alien plants

a. Soil erosion and the causes of soil erosion

b. How the alien plant are a threat to the environment

8. Question : they are a threat to who ?

9. They are a threat to nature and the environment

10. Question _ How are they a threat

11.Cause soil erosion

12. Decrease the quality of the water

13. Reduce our ability to farm

14. Increase fire risk

15. From who did you learn it? Did you learn it

- from the facilitator
- from your interaction with the group ?
- from the practical (interaction with the environment) ?
- from each other
- From the activities

15. Learner 1: I learned from the facilitator,

16. Learner 2: I learned the English version from the facilitator ; When we went out 17. I realized that I knew them but in the mother tongue so going outside to the field helped me.

18. Learner 3: learned others from others - when we went out I picked the names of plants from others

19. how is it useful to you? / What was useful to you in the lesson?

20. Learners: 1: when I get the work in the reserve.

21. Learner 2: when I get work in the environment.

22. Learner 3; when they say they want a person who has done field assistant I shall benefit.

23. Learner 4- When taking around the tourists, now that I know the names of the plants in English I shall assist them better.

24. Learner 5: I shall tell the people in the communities about the alien plants. 25. 25. When I go to the forest to fetch wood I shall know which trees to cut and not to cut.

26. I shall know which plants need not be cut because of their usefulness and uses to us.

27. Learner 6: At home I shall tell my parents which trees to destroy and which trees are useful to us.

28. Teach the people about the different types of plants.

29. Learner 7; I know which plant to grow to prevent soil erosion and which ones not to grow.

30. Learner 8: Teach my parents about the local trees and how they are useful to us

31. Learner 9: I will never plant the alien plants again

32. Learner- I shall teach my community that the gum trees are alien and should be planted away from rivers

33. Given a chance to change what would you change?

33. L earner: Advise the people to cut the alien trees

34. Learner 2: Alien plants must go home as they are spoiling the water quality

35. We want to use the water for planting and for drinking and they are spoiling that water quality

35. Learner 3: shall teach the people about the important indigenous plants.

36. Instead of alien plants we must plant indigenous trees.

APPENDIX 11 : FOCUS GROUP INTERVIEWS ANALYTIC MEMO

4.2CONTEXT	FG1	FG2	FG 3
4.2.1 Policy Context **DEA Policy** **EPWP policy**	FG1:2We are not working in the project. I worked for one month I am no longer working	FG2:2. The learners explained that they are not working in the project. They once worked in the project but now no longer working. FG2:3. Other one is it possible when you are working to be told that you need to stop while others you were	FG3:2. The learners in the course are not working in the project. They belong to the community in which the project is situated.

		hired with are still continuing? FG2:4. How were you chosen for this course if you are not working in the project? FG2:5. We attended a course in January and we were told that we must register our names and wait if our names come out we shall be invited for another course FG2:9. Learner 2; I do not like this course. It needs one to do a lot of talking. I do not like work like that. I like housekeeping (hospitality) better because I will do a lot of work by myself.	FG3: 3Why did you attend this course ? FG3: 4. Our names came out of the list for people to be trained in this course.
4.2.2 Historical Context	FG1:4. Learner 1: I have learnt the importance of communication between communities surrounding the nature reserves and the workers working in the nature reserves. FG1:5. I must not start by reporting the problems in the nature reserves to the police. FG1:6. I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve		
4.2.3 Physical Context			
4.2.4 Economic Context	FG1:3. What did you learn in class today? FG1:8. Learner 3 : learnt that the resources in the nature reserve can be used to protect the animals and plants for future use FG1:9. For growth of income FG1: 10Plants at certain times can be sold to doctors. FG1: 11The money received can be used to support community activities like crèches in the community.	FG2:7. Learner 1; Yes- it will open a chance for me to get a work in this game reserve and others. FG2:8. It will assist me to get work in the environment sector FG2: 28. Learner 8 It can assist me to get a job. It will assist me to teach the Tourists about our local plants, trees and their uses.	FG3:20. Learners: 1: when I get the work in the reserve. FG3:21. Learner 2: when I get work in the environment. FG3: 22. Learner 3; when they say they want a person who has done field assistant I shall benefit.

4.2.5 Education and Training system functioning	FG1:2We are not working in the project. I worked for one month I am no longer working	FG2:2. The learners explained that they are not working in the project. They once worked in the project but now no longer working. FG2:3. Other one is it possible when you are working to be told that you need to stop while others you were hired with are still continuing? FG2:4. How were you chosen for this course if you are not working in the project? FG2:5. We attended a course in January and we were told that we must register our names and wait if our names come out we shall be invited for another course FG2:9. Learner 2; I do not like this course. It needs one to do a lot of talking. I do not like work like that. I like housekeeping (hospitality) better because I will do a lot of work by myself. FG2:29.Given a chance what would you change in this course. FG2:30. Learner 9 : I would decrease the amount of assignments and homework	
4.2.6 Other			
4.3 WHAT THEY LEARN			
4.3.1Knowledge / content **Concepts** **Alien and indigenous plants.** **Examples of those** **Problems caused by alien plants** **Relationships between nature reserve officials and the communities around them** **Conept of preservation and conservation** **Importance of communication**	FG1:4. Learner 1: I have learnt the importance of communication between communities surrounding the nature reserves and the workers working in the nature reserves. FG1: 5. I must not start by reporting the problems in the nature reserves to the police. FG1:6. I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve FG1: 7. Learner 2 ; Learned about the importance – kokongiwa kwendalo-isetyenziswe indalo kodwa isetyenziswe	FG2:11. L earner 1 - Learned the different types of grass and their importance. FG2: 12, The fact that reeds show that the river is healthy and the water is clean. FG2: 13. The fact that its roots clean the water. Catches the foreign objects & prevents them from getting into the water FG2:13. It protects the water animals and plants FG2:14. Learner 2; The importance of plants both alien and indigenous plants FG2:15. The origins of the alien plants- also brought by birds. FG2:16. Learner 3; The fact that these introduced plants are retarding the growth of the indigenous plant as they absorb a lot of SAfrican water and cause others not to grow. FG2:24. Learner 6- yes learned the importance of standing in front and talk to the people/public.	FG3:6. learned about indigenous and alien plants FG3:7Soil erosion and the causes of soil erosion FG3:8 How the alien plant are a threat to the environment FG3:9. Question : they are a threat to who ? FG3: 10They are a threat to nature and the environment FG3:11. Question _ How are they a threat FG3: 12.Cause soil erosion FG3:13 Decrease the quality of the water FG3: 14Reduce our ability to farm FG3: 15 Increase fire risk

	kakuhle ukuze incede nabezayo (Sustainability) resources in the environment can be used but not to the finish so that even the future generations can see and benefit from them. FG1:8. Learner 3 : learnt that the resources in the nature reserve can be used to protect the animals and plants for future use	FG2:25. Learned that we need to speak loudly/ voices need to be audible. Not put hand on the mouth and face FG2: 26.Learner 7: Realised the importance of speaking, reading and writing	
4.3.2 Skills **Communication skills** **Presentation skills** **Information sharing**	FG1: 6I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve	FG2:24. Learner 6- yes learned the importance of standing in front and talk to the people/public. FG2:25. Learned that we need to speak loudly/ voices need to be audible. Not put hand on the mouth and face FG2: 26.Learner 7: Realised the importance of speaking, reading and writing	
4.3.3 Values **Equity** **Social justice** **Care**	FG1:8. Learner 3 : learnt that the resources in the nature reserve can be used to protect the animals and plants for future use FG1: 5. I must not start by reporting the problems in the nature reserves to the police. FG1:6. I must hold meetings with the community and discuss with them the importance of the animals and plants in the nature reserve		
4.3.4 Attitudes **Responsibility** **Sharing of information** **Change of attitude**	FG1: 5. I must not start by reporting the problems in the nature reserves to the police. FG1:6. I must hold meetings with the		FG3: 35. Learner 3: shall teach the people about the important indigenous plants. FG3:36. Instead of alien plants we must plant indigenous trees. FG3:30. Learner 8: Teach my

	community and discuss with them the importance of the animals and plants in the nature reserve		parents about the local trees and how they are useful to us FG3:31. Learner 9: I will never plant the alien plants again
4.3.5 Other **Actions to take**.			FG3:33. L earner: Advise the people to cut the alien trees FG3:34. Learner 2: Alien plants must go home as they are spoiling the water quality FG3:35. We want to use the water for planting and for drinking and they are spoiling that water quality FG3:35. Learner 3: shall teach the people about the important indigenous plants. FG3:36. Instead of alien plants we must plant indigenous trees.
4.4 HOW THEY LEARN			
4.4.1 Educators'roles, actions and practices		FG2:16. Question: From whom did you learn these things FG2:17. Learner 1; From facilitator. FG2:18. Learner 2; No we knew most of the names of these plants but we did not know them in English. The facilitator gave us the English names. We learnt from the facilitator and from each other. FG2:19.Did you learn anything by going out for field work ?	FG3:15. Learner 1: I learned from the facilitator, FG3:16. Learner 2: I learned the English version from the facilitator
4.4.2 Learners' responses /practices **Shift from preservation to conservation** **Shared their traditional knowledge with the facilitator** **Fieldwork** **Expressions of the actions to take in their communities**	FG1:4. Learner 1: I have learnt the importance of communication between communities surrounding the nature reserves and the workers working in the nature reserves. FG1: 5. I must not start by reporting the problems in the nature reserves to the police. FG1:6. I must hold meetings with the community and	FG2:18. Learner 2; No we knew most of the names of these plants but we did not know them in English. The facilitator gave us the English names. FG2:20. Learner 3: We shared with the facilitator our own traditional uses of the plants. FG2:21. Learner 4 yes we were not going to see these trees if we stayed here in class. FG2:22. Learner 5; We were going to think that they are new things; when we went out for field work we realized that we know others as we called them by our African names.	FG3:16. Learner 2: I learned the English version from the facilitator ; When we went out FG3:17. I realized that I knew them but in the mother tongue so going outside to the field helped me. FG3:18. Learner 3: learned others from others - when we went out I picked the names of plants from others FG3;24. Learner 5: I shall tell the people in the communities about the alien plants. FG3:25. When I go to the forest to fetch wood I shall

	discuss with them the importance of the animals and plants in the nature reserve		know which trees to cut and not to cut. FG3:26. I shall know which plants need not be cut because of their usefulness and uses to us. FG3:27. Learner 6: At home I shall tell my parents which trees to destroy and which trees are useful to us. FG3:28. Teach the people about the different types of plants. FG3:29. Learner 7; I know which plant to grow to prevent soil erosion and which ones not to grow. FG3:30. Learner 8: Teach my parents about the local trees and how they are useful to us FG3:31. Learner 9: I will never plant the alien plants again 32. Learner- I shall teach my community that the gum trees are alien and should be planted away from rivers
4.4.3 Interaction processes		FG2:18. Learner 2; No we knew most of the names of these plants but we did not know them in English. The facilitator gave us the English names. FG2:20. Learner 3: We shared with the facilitator our own traditional uses of the plants. FG2:21. Learner 4 yes we were not going to see these trees if we stayed here in class. FG2:22. Learner 5; We were going to think that they are new things; when we went out for field work we realized that we know others as we called them by our African names. FG2:24. Learner 6- yes learned the importance of standing in front and talk to the people/public. FG2:25. Learned that we need to speak loudly/ voices need to be audible. Not put hand on the mouth and face FG2: 26.Learner 7: Realised the importance of speaking, reading and writing	FG3:18. Learner 3: learned others from others - when we went out I picked the names of plants from others FG3;23. Learner 4- When taking around the tourists, it will be easy now that I know the names of the plants in English I shall assist them better. FG3;24. Learner 5: I shall tell the people in the communities about the alien plants. FG3:25. When I go to the forest to fetch wood I shall know which trees to cut and not to cut. FG3:26. I shall know which plants need not be cut because of their usefulness and uses to us. FG3:27. Learner 6: At home I shall tell my parents which trees to destroy and which trees are useful to us. FG3:28. Teach the people about the different types of plants. FG3:29. Learner 7; I know

			which plant to grow to prevent soil erosion and which ones not to grow. FG3:30. Learner 8: Teach my parents about the local trees and how they are useful to us FG3:31. Learner 9: I will never plant the alien plants again 32. Learner- I shall teach my community that the gum trees are alien and should be planted away from rivers
4.4.3 Assessments			
4.4.4 Assessment			
4.5ASSUMPTIONS			
4.5.1Learner assumptions			
4.5.2Educator Assumptions			
4.5.3 Institutional/ systemic assumptions			
4.5.4 Programmatic Assumptions			
Employment /workers Assumptions			

APPENDIX : 12 SEMI- STRUCTURED INTERVIEW QUESTIONS FOR THE FACILITATOR

PERSONAL DETAILS:

1. Name and Surname :
2. Highest Qualifications:
3. Environmental Qualification:
4. Facilitators' qualification:
5. Previous work experience:
6. Experience in Conservation / environment:
7. Experience in facilitating the course:
8. Work experience in this working company:
9. Involvement in the materials development / writing of the course:

SUBJECT MATTER

10. How do you feel about the group /Class

- Their level of literacy
- Their level of participation in groups
- Their level of participation with each other
- Interaction in the practicals
- Responses to questions
- Concentration / commitment to the training as a whole

What do you think are their weaknesses & strong points

11. How can they learn better?

13. Their background in environmental issues

APPENDIX 13: TRANSCRIPTION OF THE INTERVIEW OF FACILITATOR NO.1

1. Name of the Facilitator :Bethuel Manganyela

2.Highest Qualification: STd 10; Assessor
3.Environmental Qualification: Hospitality.; Food and Beverage
4.Facilitators'Course: Yes I have done a facilitators course and registered with the ETDP Seta
5. Interviewer: Previous Work experience: Worked in hospitality in hotels as a supervisor: Answer-Have managed restaurants. Interviewer: Experience in facilitating the course: Answer; 2001- 2010
6. Interviewer: Do you have any other facilitation experience besides doing it for Tourism world?
7. Yes facilitated Ethekwini Khombisa Skills Academy
8. Interviewer: When did you start working for Tourism world – 2004
9. Interviewer: Is he inviting you when there is a course or are you a member of his staff?
10.He has been keeping me for years now. When there is no training I work in the office
11. Interviewer: Do you have any involvement in materials development?
12. Partially- The manager sometimes request me to make changes here and there when needs for change arise.
SUBJECT MATTER
13. Interviewer: How do you feel about the group ?class
14. Interviewer: Their level of literacy?
16. Their level of literacy is low- It does not match up with what it is supposed to be.
17. Interviewer: Do you see that as disadvantaging them?
18. Yes it is disadvantaging them. Even if you adapt the materials and go down to a low, low, level they battle. A few of them are coping and understand what the programme is about. How many do you think are coping. I can say 6out of 10 are coping.
19. Interviewer: What do you think is the problem?
20. It is not that they are dull. They are eager to learn. They want to understand but it is above their level.
21. Interviewer: What about their level of participation?
21. 98% of them are participating/ they want to. Their participation in groups is good
22. Interviewer: Interaction with each other?
23. This becomes a little bit of a problem. There are those who understand and those who do not understand. I cannot let those who are slow and do not understand pair together. I pair those who understand with those who do not. I experience a problem because those who understand feel that their time is wasted.
24. Interviewer: In practical?
25. Unfortunately they have not been involved in or exposed to practicals
26. Interviewer: What about their responses to questions their concentration and commitment?
27. It is good.
28. Interviewer: Do you not think that they have just come for a stipend?
29. There is only 1 who I think has just come for a stipend.
30. Interviewer: Why do you say so?
31. Because her level of literacy is very low. Secondly she has a high level of rejection- just staying for the sake of making a day.
32. Interviewer: Any weaknesses; Answer: They have never been involved in a hospitality and any working environment
33. Interviewer: Any strong points? Answer: Not any identified at the moment
34. Interviewer: How can they learn better?
35. Need a practical training and be in a working environment. Now they are just imagining what they have no idea of.
36. Interviewer: Do you think that can fit in this EPWP concept?
37. I can see that we train for what will be not for what is there
38. I can advise them to volunteer in the lodges around after training to get an experience
39. Interviewer: Do you think there is anything that need to be changed?
40. Selection of learners need to be given attention Proper skills analysis should be done.
41. People should be given a choice of the skills programmes they are interested in. the different skills programmes offered need to be explained to them what they entail because sometimes they are just attracted by words and names and when they get into the programme they discover that it is not what they were interested in.
42. Interviewer: Do you feel that these have not been well screened?
43. Definitely not.
44. Interviewer: How do you feel about the whole DEAT EPWP programme
45. It is useful provided it is monitored well.
46. We train the people and after that nobody cares for them there is a need for follow ups on people trained. DEAT is doing wonderful work but skills programmes are short courses there are not beneficial in some areas.
47. Learnerships have a better advantage as they enforce the fact that the learners be exposed to practical. But they also need a lot of monitoring.
48. Interviewer: What about facilitators bringing up simulations and utensils to expose the learners to practical?
49. It depends on the environment.

APPENDIX 14: TRANSCRIPT OF THE INTERVIEW OF FACILITATOR 02

1.Name of the facilitator : Themba Mthembu
2. Question: What is your Highest Qualification?
3. Fac: It is Matric and Nature Conservation NQF 4
4. Question: What is your environmental qualification?
5. Answer: Nature Conservation NQF 4 is also my environmental qualification and I have done some short courses in conservation and environmental education
6. Quest: Do you have any facilitators qualification?
7. Answer: No I do not have facilitators' qualification
8. Question: Not even a train the trainer course?
9. Answer: I can say I once attended but I did not receive a certificate so it is difficult for me to say 10. I have a qualification. I was going to do it this week. From this course I shall go and check again.
11. Question: Do you have any previous experience besides working for Tourism World?
12. Answer: I have experience with other organizations though not full time. I worked for Bird life South Africa doing environmental education.
13. I trained birds' guides, trained nature guides. I also worked with Nature College in Cape Town-doing part time lecturing distant nature conservation training for them.
14. I was freelancing, called upon when there is a need
15. Question: What is your experience in Conservation and the environment; do you have any university diploma or what?
16. Answer: I have done a course with Wildlife College
17. Question: Did you got to them full time or attended a course?
18. Answer: Attended a course
19. Question: How long have you been facilitating this course?
20. 3yrs
21. Question: How long is your experience in this company?
22. Answer: I have been doing work for them since 2008. I had contracts. They call me when there is a need for training. I have been freelancing
23. Question: Have you ever been involved in materials development?
24. No. Developing learning materials? no
25. Subject Matter:
26. Question: How do you feel about your class – level of their literacy
27. Answer: Their literacy is a challenge, Have low qualifications.
28. They have low education skills.
29. It is like they have not matriculated. It is a mixture of old and young people.
30. The old have been out of school for a long time and the old people do not understand English. I take a bit of time interpreting.
31. The young ones have just come out of school and the gap is big between them. The materials are written in English.
32 Every time I have to assess their level of understanding. I have to interprete into mother toungue.
33. Question: Do you think they have been out of school for a long time ?
34. Answer: Yes
35. Question: How do you feel about their level of participation?
36. Participation in the groups is what is helping them. They have a desire to learn. 37. Though they have been out of school they like to participate in learning. It easy to help them they have a desire to learn
38. The participation for those who have just come out of school are cool. They work well
39. Question: How do you feel about their participation with each other
40. Answer: They are not interacting well with each other. I am trying to change and mix their groups on a daily basis.
41. The old and the young. Try and change groups. Do not want to put those who do not understand alone.
42. Question: How do you feel about their interaction in practicals?
43. Very good, have enthusiasm to learn new things. Eager to learn.
44. They are very excited in practicals and eager to learn new things. They ask questions
45. Question: How do you know they are eager to learn?
46. Answer: They ask questions and interact a lot with me
47. Question: What about their Concentration and commitment ?
48. Answer: They are concentrating and committed to the training
49. Question: What do you think are their weaknesses/
50. Answer: Poor education levels, detrimental effect on them. not picking up the main words. 51.They have to know all these things in English but we are discussing things in Mother tongue.
52. Need to support tourists in future and tourists speak English only. They do not understand mother tongue.
53. Negligence, DEAT is paying us. Not taking it seriously.
54. Question: Are these ideas not conflicting if you say they are eager to learn and at the same time raise issues of negligence?

55. Answer: It is not 100% some of them are negligent.
56. Question: How can they learn better?
57. The facilitator need to do a lot of explaining, interpretation; engage them in a lot of prior activities before the lesson,
58. They need to do more presentations, more participation more involvement in practical activities. Introducing them to feel that they are part of it
59. Question: When do you think they are learning better?
60. Answer: When they interact with each other. In groups others hide. In groups also they can learn because there is lot of sharing.
61 In facilitation they can get half of it because I cannot be sure that they are learning or not while they are quiet listening to me.
62. Question: Their background in environmental issues?
63. Answer: They have background in environmental issues. They know their trees, animals and plants but they know them in their mother tongue. We can also learn from them. They also know the uses of some of the plants. Can tell us better things. Have all the traditional knowledge about plants and animals.

APPENDIX 15: INTERVIEWS ANALYTIC MEMO

4.2CONTEXT	I1	I2	
4.2.1 Policy Context			
4.2.2 Historical Context			
4.2.3 Physical Context			
4.2.4 Economic Context **Coming for a stipend ; not eager to learn**	I1:28.Do you not think that they have just come for a stipend? I1:29.There is only 1 who I think has just come for a stipend. I1: 30. Why do you say so? I1:31. Because her level of literacy is very low. Secondly she has a high level of rejection- just staying for the sake of making a day	I2:53. Negligence, DEAT is paying us. Not taking it seriously.	
4.2.5 Education and Training system functioning **Practical training** **Skills analysis** **Explanation of skills during skills analysis** **Coming for a stipend ; not eager to learn**	I1:35. Need a practical training and be in a working environment. Now they are just imagining what they have no idea of. Selection of learners need to be given attention Proper skills analysis should be done. I1:41. People should be given a choice of the skills programmes they are interested in. the different skills programmes offered need to be explained to them what they entail because sometimes they are just attracted by words and names and when they get into the programme they discover that it is not what they were interested in. I1: 42. Do you feel that these have not been well screened? I1:43. Definitely not.	I2:53. Negligence, DEAT is paying us. Not taking it seriously. I2: 54.Are these ideas not conflicting if you say they are eager to learn and at the same time raise issues of negligence? I2:55. It is not 100% some of them are negligent.	
4.2.6 Other **Need of work experience/ practical in what they learn** **Follow ups**	I1:32. Weaknesses; They have never been involved in a hospitality and any working environment 44. How do you feel about the whole DEAT EPWP programme I1:45. It is useful provided it is monitored well.		

	I1:46. We train the people and after that nobody cares for them there is a need for follow ups on people trained. DEAT is doing wonderful work but skills programmes are short courses they are not beneficial in some areas. I1:47. Learnerships have a better advantage as they enforce the fact that the learners be exposed to practical. But they also need a lot of monitoring.		
4.2.7 Qualification **Qualification in the course they are offering.** **Education & training / facilitation qualification**	I1:2 :Highest Qualification: STd 10; Assessor I1:3.Environmental Qualification: Hospitality.; Food and Beverage I1: 4.Facilitators'Course: Yes I have done a facilitators course and registered with the ETDP Seta	I2: 3.Fac: It is Matric and Nature Conservation NQF 4 I2 : 4 Nature Conservation NQF 4 is also my environmental qualification and I I2: 7.Answer: No I do not have facilitators' qualification I2: 9 I can say I once attended but I did not receive a certificate so it is difficult for me to say I have this qualification. I2:10. I was going to do it this week. From this course I shall go and check again.	
4.2.8Experience with other Organisations **Previous experience in the field**	I1:5. Previous Work experience: Worked in hospitality in hotels as a supervisor. Have managed restaurants. Experience in facilitating the course: 2001- 2010 I1:6.Do you have any other facilitation experience besides doing it for Tourism world? I1:7. Yes facilitated Ethekwini Khombisa Skills Academy	I2:12. Answer: I have experience with other organizations though not full time. I worked for Bird life South Africa doing environmental education I2:13. I trained birds' guides, trained nature guides. I also worked with Nature College in Cape Town-doing part time lecturing distant nature conservation training for them. I2:14. I was freelancing, called upon when there is a need I2:16. Answer: I have done a course with Wildlife College	
4.2.9 Experience in General Assistant Conservation **Experience in the course they are facilitating** **Experience in development of learning materials** **Freelancing not on the pay roll of the Contracted provider**	I1: 8– 2004 I1:9. Is he inviting you when there is a course or are you a member of his staff? I1:10.He has been keeping me for years now. When there is no training I work in the office I1: 11. Do you have any involvement in materials development? I1:12. Partially- The manager sometimes request me to make changes here and there when needs for change arise.	I2: 20 Answer: I started in 2008 I2: I have been doing work for them since 2008. I had contracts. They call me when there is a need for training. I have been freelancing I2: 24. No. Developing learning materials? No	
4.2.10 Literacy levels of learners **Do not match with the level of the training** **Mixture of learners at different levels of education** **Combination of young and**	I1:16.Their level of literacy is low- It does not match up with what it is supposed to be. I1:17. Do you see that as disadvantaging them? I1:18. Yes it is disadvantaging them. Even if you adapt the materials	I2: 27 It is a challenge, Have low qualifications. I2:28. They have low education skills. I2:29. It is like they have not matriculated. It is a mixture of old and young people. I2:30. The old have been out of school for a long time and the old people do not	

old learners **Combination of learners who left school a few years back with those who have just left school**	and go down to a low, low, level they battle. A few of them are coping and understand what the programme is about. How many do you think are coping. I can say 6out of 10 are coping. I1:19. What do you think is the problem? I1:20. It is not that they are dull . they are eager to learn . They want to understand but it is above their level.	understand English. I take a bit of time interpreting. I2:31. The young ones have just come out of school and the gap is big between them. The materials are written in English. I2:32 Every time I have to assess their level of understanding. I have to interpret into mother tongue.	
4.3 WHAT THEY LEARN			
4.3.1Knowledge / content **have background in environmental issues** **know their trees, animals and plants** **know the uses of some of the plants. Can tell us better thing.**	I1:18. Yes it is disadvantaging them. Even if you adapt the materials and go down to a low, low, level they battle. A few of them are coping and understand what the programme is about. How many do you think are coping. I can say 6out of	I2:61 In facilitation they can get half of it because I cannot be sure that they are learning or not while they are quiet listening to me. I2:63They have background in environmental issues. They know their trees, animals and plants but they know them in their mother tongue. We can also learn from them. They also know the uses of some of the plants. Can tell us better thing. Have all the traditional knowledge about plants and animals.	
4.3.2 Skills **have low education skills** **the old people do not understand English.**	I1:35. Need a practical training and be in a working environment. Now they are just imagining what they have no idea of.	I2:28. They have low education skills. I2:30. The old have been out of school for a long time and the old people do not understand English. I take a bit of time interpreting.	
4.3.3 Values			
4.3.4 Attitudes			
4.3.5 Other			
4.4 HOW THEY LEARN **Participation in groups** **Participation in practicals** **Ask questions** **Interact with the facilitator** **Struggle with English so learn well when interpretations are made**	I1:21. 98% of them are participating/ they want to. Their participation in groups is good I1:22. Interaction with each other? I1:23. This becomes a little bit of a problem. There are those who understand and those who do not understand. I cannot let those who are slow and do not understand pair together. I pair those who understand with those who do not. I experience a problem because those who understand feel that their time is wasted. I1:26. What about their responses to questions their concentration and commitment? I1:27. It is good	Participation in the groups is what is helping them. They have a desire to learn. I2: 37.Though they have been out of school they like to participate in learning. They are very excited in practicals and eager to learn new things. They ask questions I2: 45. How do you know they are eager to learn ? I2:46.They ask questions and interact a lot with me I2: 38 The participation for those who have just come out of school are cool. They work well I2:48. They are concentrating and committed to the training I2: 50 Not picking up the main words. I2:51.They have to know all these things in English but we are discussing things	

		in Mother tongue.	
4.4.**1 Educators' roles, actions and practices** • **Assess their level of understanding** • **Interpret into mother tongue** • **Adapt materials to fit the level of learners** • **Explain** • **Interpret** • **Ask questions** • **Arrange them into groups** • **Make plans and negotiate what is good learners with others** • **Engage the learners in a lot of activities prior the lesson**	I1:21. 98% of them are participating/ they want to. Their participation in groups is good I1:22. Interaction with each other? I1:23. This becomes a little bit of a problem. There are those who understand and those who do not understand. I cannot let those who are slow and do not understand pair together. I pair those who understand with those who do not. I experience a problem because those who understand feel that their time is wasted. I1:18. Yes it is disadvantaging them. Even if you adapt the materials and go down to a low, low, level they battle. A few of them are coping and understand what the programme is about. How many do you think are coping. I can say 6out of I1:26. What about their responses to questions their concentration and commitment? I1:27. It is good	32 Every time I have to assess their level of understanding. I have to interpret into mother tongue. I2: 57. The facilitator need to do a lot of explaining, interpretation, engage them in a lot of prior activities before the lesson,	
4.4.2 Learners'res ponses /practices • **Participation in the groups** • **They are very excited in practicals** • **They ask questions** • **They work well** • **They are concentrating and committed to the training** • **They need to do more presentations** • **Interact with each other** • **In groups others hide. In groups also they can learn because there is lot of sharing.** • **They know their trees, animals and plants** • **They also know the uses of some of the plants** • **Can tell us better**	I1:21. 98% of them are participating/ they want to. Their participation in groups is good I1:26. What about their responses to questions their concentration and commitment? I1: 27. It is good	.Participation in the groups is what is helping them. They have a desire to learn. I2: 37.Though they have been out of school they like to participate in learning. They are very excited in practicals and eager to learn new things. They ask questions I2: 45. How do you know they are eager to learn ? I2:46.They ask questions and interact a lot with me I2: 38 The participation for those who have just come out of school are cool. They work well I2:48. They are concentrating and committed to the training I2: 50 Not picking up the main words. I2:51.They have to know all these things in English but we are discussing things in Mother tongue. I2:53. Negligence, DEAT is paying us. Not taking it seriously. It is not 100% some of them are negligent I2: 58 They need to do more	

thing. • **Have all the traditional knowledge about plants and animals.**		presentations , more participation more involvement in practical activities. Introducing them to feel that they are part of it I2: 60When they interact with each other. In groups others hide. In groups also they can learn because there is lot of sharing. I2: 63. They have background in environmental issues. They know their trees, animals and plants but they know them in their mother tongue. We can also learn from them. They also know the uses of some of the plants Can tell us better thing. Have all the traditional knowledge about plants and animals.	
4.4.3 Interactions processes • **Participation in the groups** • **They are very excited in practicals** • **They ask questions** • **They work well** • **They are concentrating and committed to the training** • **They need to do more presentations** • **In groups others hide. In groups also they can learn because there is lot of sharing.** • **They know their trees, animals and plants** • **They also know the uses of some of the plants** • **Can tell us better thing.** • **Have all the traditional knowledge about plants and animals.**	I1:21. 98% of them are participating/ they want to. Their participation in groups is good I1:22Interaction with each other? I1: 23. This becomes a little bit of a problem. There are those who understand and those who do not understand. I cannot let those who are slow and do not understand pair together. I pair those who understand with those who do not. I experience a problem because those who understand feel that their time is wasted. I1:26. What about their responses to questions their concentration and commitment? I1: 27. It is good.	I2:36.Participation in the groups is what is helping them. They have a desire to learn. I2: 37.Though they have been out of school they like to participate in learning. It easy to help them they have a desire to learn I2:38.The participation for those who have just come out of school are cool. They work well I2:40.They are not interacting well with each other. I am trying to change and mix their groups on a daily basis. I2:41. The old and the young. Try and change groups. Do not want to put those who do not understand alone I2:43. Very good, have enthusiasm to learn new things. Eager to learn. 12: 44.They are very excited in practicals and eager to learn new things. They ask questions I2: 45. How do you know they are eager to learn ? I2:46.They ask questions and interact a lot with me I2:63. They have background in environmental issues. They know their trees, animals and plants but they know them in their mother tongue. We can also learn from them. They also know the uses of some of the plants. Can tell us better thing. Have all the traditional knowledge about plants and animals.	

4.4.4 Assessment			
4.5ASSUMPTIONS			
4.5.1Learner assumptions			
4.5.2Educator Assumptions	I can advise them to volunteer in the lodges around after training to get an experience People should be given a choice of the skills programmes they are interested in. the different skills programmes offered need to be explained to them what they entail because sometimes they are just attracted by words and names and when they get into the programme they discover that it is not what they were interested in.	I2: 52 Need to support tourists in future and tourists speak English only. They do not understand mother tongue. I2: 60They need to do more presentations, more participation more involvement in practical activities. Introducing them to feel that they are part of it I2:61 In facilitation they can get half of it because I cannot be sure that they are learning or not while they are quiet listening to me.	
4.5.3 Institutional/ systemic assumptions			
4.5.4 Programmatic Assumptions			
Employment /workers Assumptions			

APPENDIX 16: DOCUMENT ANALYSIS OF THE LEARNING MATERIAL

1. Understand and apply personal values and Ethics: Unit standard 8416 pg 46-66 of the learning material document.

Opens up with group activities:

20. the groups discuss their understanding of and the meaning of the word ethics
21. After discussing it they need to write down their groups'defnition on a piece of paper
22. Activity groups need to discuss the right things to do and wrong things to do
23. After discussing they need to write the right things and the wrong things down
24. A short paragraph is given on the explanation of what ethics are about.
25. The teacher discusses with them the meanings of reasoning, intentions, motives and the actions
26. Under the heading behavior in daily lives – Learners to read a case study
27. Grouped in partners to answer questions from the case study
28. Facilitator introduces a topic on values
29. An explanation of values as ideas about right or wrong
30. Learners expected to make a list of the parts that make up a social environment
31. Deal with value conflicts – Learners read the information& complete the activity
32. Look at the picture of men heating each other with their heads
33. Get information about the situation
34. Get information about the situation around the conflicts
35. Arranged in partners to read a case study about Bonginkosi a conservationist in a nature reserve
36. Discuss and answer the questions based on the case study
37. They are to imagine that they are Bonginkosi
38. Compare notes with partner

2. Combat Problem Plants (212-218) Unit Standard (8330)

Open with a dialogue

1. Learners to read the dialogue twice and take turns to read each part
2. The dialogue is between the visitor and a conservationist
3. The dialogue is introducing the learners to what the alien plants are
4. At the end of the dialogue the conservationist explains what alien are
5. How they are a threat to the environment
6. Read the activities published by the department of water Affairs
7. Read the categories of alien plants
8. Teacher to explain why do we have alien plants
9. Learners to discuss the possible threats posed by alien plants in groups
10. Learners to enlist threats of alien plants on the spider web diagram
11. Add the impact of alien plants into their chart
12. Learners to prepare a choral presentation on alien plants
13. The title of the song to be GO AWAY ALIEN Plants
14. Discuss how they can control alien plants
15. How the herbicides can be handled
16. How they can protect themselves from herbicides

3. Combat Soil Erosion (203- 211) Unit Standard 8331

Open by Identification of the erosion sites

1. Read the paragraph explaining soil erosion and the different types of erosion
2. Accelerated and natural soil erosion
3. Learners to complete the tables listing the differences between natural soil erosion and accelerated soil erosion
4. Shown pictures of soil erosion sites
5. Instructed to study the pictures and
6. List all what they notice on the pictures
7. Design a chart that clearly explains the criteria us ed to identify soil erosion
8. Read a paragraph on the cause of accelerated soil erosion
9. Read and discuss the soil erosion process
10. After the discussion learners design a flow diagram to explain the soil erosion process.
11. Discuss the control of soil erosion