



RHODES UNIVERSITY
Where leaders learn

A case study of lessons learned through empowering and mobilizing unemployed youth into sustainable green jobs within the SANBI – Groen Sebenza partnership programme by a Host Institution in South Africa.

Thesis submitted in partial fulfilment of the requirements of the Degree of Masters in
Environmental Education
(THESIS OF LIMITED SCOPE)

Rhodes University

By

DONAVAN FULLARD
15F4373

Supervisor: Distinguished Professor Heila Lotz-Sisitka

MARCH 2021

ABSTRACT

This research project constituted as a thesis of limited scope for a Masters in Education Degree (i.e. as 50% of the degree) focusses on a job creation programme named ‘Groen Sebenza’ [Green Work]. Groen Sebenza is an environmental education ‘incubator’ programme driven and implemented by the South African National Biodiversity Institute (SANBI) to unlock green jobs and bridge the gap between education and job opportunities in the biodiversity sector in South Africa. The programme is a key intervention to strengthen biodiversity human capacity development in the biodiversity sector in South Africa, seeking to contribute to transformation of the biodiversity sector, and also address issues of youth unemployment in the country. The young ‘interns’ in the programme were called ‘pioneers’ at the start of the project. This research project explores how a host institution operating as a community of practice within a landscape of practice managed to implement the Groen Sebenza programme by absorbing and appointing all their pioneers into sustainable jobs beyond the pilot project.

I sought to better understand the process of supporting and empowering unemployed youth into sustainable green jobs within the Groen Sebenza partnership programme. I drew on Community of Practice (CoP) theory, and its value creation framework to develop this understanding, and I under-laboured the analysis with a social realist analysis of enabling and constraining factors. The unit of analysis of a Community of Practice was a useful focus for the study, as these mentors, managers, and administrators were all involved in supporting the empowerment and retention of the young pioneers in the host institution. To develop deeper insight into the learning and knowing, and value created in and by the Groen Sebenza CoP in the Host Institution, I also sought insight into enabling and constraining factors and how these shaped and contributed to empowerment and retention of the pioneers in sustainable green jobs. The research addressed the main question of ‘How do processes of learning, knowing and value creation contribute to empowerment and retention of unemployed youth in a successful Host Institution in the Groen Sebenza programme, and what enabled or constrained the empowerment and retention processes and outcomes?’. Three sub-questions were used in the study, which focussed on **the mentoring, training and workplace experiences** and how they contribute to the process of learning and knowing within the Groen Sebenza Community of Practice in the Host Institution? [Addressed in Chapter 4], the **value creation elements** that emerged in the implementation of the programme in support and empowerment of the pioneers

in the Host institution's Groen Sebenza CoP? [Addressed in Chapter 5], and the **enabling and constraining factors** that shaped and contributed to the uptake of the Pioneers into sustainable green jobs at the Host Institution within the Groen Sebenza Programme? [Addressed in Chapter 6].

The research was conducted as a qualitative case study, in which I used semi-structured interviews as a key data source, as well as document analysis, and a questionnaire. The study drew on inductive, abductive and retroductive modes of inference since I sought to explore an understanding of the practices and learning that occurred that contributed and led to the successful uptake of Pioneers into jobs, as well as the enabling and constraining factors. The study was interpretive at the epistemic level, and had a social realist under-labouring at the ontological level.

Key findings of the study point to the development of enabling cultures of mentoring in workplaces, and the provision of a diversity of workplace learning experiences including formal training. It also points to the importance of personal emergent properties amongst mentors and pioneers that embrace a willingness to work together and build strong relationships, and to learn together. Learning in the community of practice was shown to develop identity and a sense of belonging as pioneers were given meaningful tasks to do and their training and interactions with mentors was experienced as meaningful and relevant. The contributions of the pioneers to the institutional mandate was appreciated by the mentors and therefore also well supported within an empowerment orientation. Various structural factors contributed to this enabling situation, most notably strong support from management as well as good co-operation across divisions. Constraining factors included the physical distances in the province, as well as financial and technical issues such as poor ICT communication systems.

Overall, though the study showed that a strong approach to learning in communities of practice supported by empowering mentoring can lead to the integration of young pioneers into sustainable green jobs in the environmental sector. A whole institution approach to this process is, however, needed, and the organisation needs to develop a culture of social learning.

As recently as September 2020 as this study was being finalised, the Presidential Employment Stimulus Plan (Office of the President, 2020) following the initial economic shocks emanating from the COVID-19 pandemic, made yet another commitment to using the Groen Sebenza

model to create and support sustainable job creation for young people in South Africa today in the environmental sector. This study has been developed and designed to understand those processes and enabling conditions that can support retention and empowerment of young people to take up jobs in the environmental sector today. Its recommendations may therefore be of value to those involved in seeking to support sustainable impacts in terms of retention and employment in programmes such as the Groen Sebenza, and in the Groen Sebenza programme itself as it continues to unfold as a key job creation tool for unemployed youth.

ACKNOWLEDGEMENTS

Firstly, I am extremely grateful and privileged for the opportunity to have managed a groundbreaking pilot programme called the SANBI Groen Sebenza programme which was implemented across South Africa. It was an amazing journey that saw many unemployed young people being given the opportunity to grow personally and professionally in the environmental sector. I wish to thank all the participants in this case study i.e the pioneers, mentors, support staff and senior management of the host institution which I based my research on.

I wish to thank my supervisor, Distinguished Professor Heila Lotz-Sisitka for never giving up on me completing this research. I truly appreciate the support, insights and guidance received from you. Also to my fellow M.Ed students, lecturers and support staff at ELRC during our coursework years and beyond, for the support, stimulating and collaborative learning engagements.

Lastly, to all my family, friends and ex-colleagues for your encouragement and support. I would like to dedicate this thesis to my parents, Elizabeth and the late Coenrad Fullard, for all the sacrifices they made to enable me to achieve success.

TABLE OF CONTENTS

ABSTRACT.....	ii
ACKNOWLEDGEMENTS.....	v
TABLE OF CONTENTS.....	vi
LIST OF APPENDICES.....	x
LIST OF FIGURES.....	xi
LIST OF TABLES.....	xi
CHAPTER 1.....	12
INTRODUCTION TO THE CONTEXT OF THE STUDY AND RESEARCH QUESTIONS	12
1.1 Introduction.....	12
1.2 Introduction to the Groen Sebenza Programme.....	12
1.2.1 History and context shaping the establishment of the Groen Sebenza programme 12	
1.2.2 Scale of the programme.....	15
1.2.3 The partnership model.....	16
1.2.3 Policy features of this programme.....	18
1.2.4 Green jobs or occupations.....	19
1.2.5 Educational methodological approaches.....	20
1.2.6 Governance structures and principles guiding the Groen Sebenza programme 23	
1.2.7 Evaluation processes.....	24
1.2.8 My positionality in the Groen Sebenza programme.....	25
1.3 Research interest and questions.....	26
1.3.1 Research interest.....	26

1.3.2	Main research question and sub questions.....	26
1.4	Overview of thesis	27
1.5	Conclusion	28
CHAPTER 2	30
CONTEXTUAL AND THEORETICAL FRAMING OF THIS STUDY.....		30
2.1	Introduction.....	30
2.2	The Wider Context: A contextual and conceptual overview of the Groen Sebenza Programme.....	31
2.3	The Wider Context: Green Economy and Green Jobs.....	37
2.4	The wider context: A focus on youth and youth employment creation.....	41
2.5	Theoretical framework: Communities of Practice as a situated social learning theory	42
2.6	Social Learning Value Creation in Communities of Practice	52
2.7	Realist social theory as underlabourer	56
2.8	Conclusion	58
CHAPTER THREE :	59
RESEARCH METHODOLOGY.....		59
3.1	Introduction.....	59
3.2	Research Design.....	59
3.2.1	Study site selection and participants selection.....	59
3.2.3	Qualitative Case Study.....	61
3.2.4	Interpretive case study with a social realist under-labouring.....	61
3.3	Data collection	62
3.3.1	Document analysis	62
3.3.2	Semi-structured interviews	63
3.3.3	Focus group discussion	63
3.3.4	Questionnaire	64
3.4	Data Management	64

3.5 Data Analysis	65
3.6 Ensuring Validity and Trustworthiness	69
3.7 Research Ethics	69
3.8 Limitations	70
3.9 Conclusion	71
CHAPTER 4:	72
SOCIAL LEARNING IN A COMMUNITY OF PRACTICE	72
4.1 Introduction.....	72
4.2 Learning as a community of practice within the Groen Sebenza programme	72
4.2.1 Learning as Doing (Practice)	73
4.2.2 Learning as Experience (Meaning).....	77
4.2.3 Learning as Belonging (Community)	82
4.2.4 Learning as Becoming (Identity)	87
4.3 Conclusion	91
CHAPTER 5:	92
SOCIAL LEARNING VALUE CREATED FOR MENTORS AND PIONEERS IN THE HOST INSTITUTION	92
5.1 Introduction.....	92
5.2 Value creation according to mentors	92
5.2.1 IMMEDIATE VALUE created according to the mentors – indicators of activity/interactions.....	92
5.2.2 POTENTIAL VALUE created according to the mentors – knowledge capital.....	96
5.2.3 APPLIED VALUE created according to the mentors – changes in practice.....	101
5.2.4 REALIZED VALUE created according to the mentors – performance improvement	104
5.2.5 TRANSFORMATIVE VALUE created according to the mentors – assessing the redefinition of success.....	110
5.3 Value creation according to pioneers.....	111

5.3.1	IMMEDIATE VALUE according to Pioneers – indicators of activity/ interactions.....	112
5.3.2	POTENTIAL VALUE according to Pioneers - knowledge capital.....	113
5.3.3	APPLIED VALUE according to Pioneers – changes in practice	114
5.3.4	REALIZED VALUE according to Pioneers – performance improvement ...	115
5.4.5	TRANSFORMATIVE VALUE according to the Pioneers	116
5.5	Conclusion	116
CHAPTER 6		118
CONCLUSION: FACTORS SHAPING UPTAKE OF THE PIONEERS INTO SUSTAINABLE GREEN JOBS		118
6.1	Introduction.....	118
6.2	Summary of the main findings in related to sub-questions 1 and 2.....	119
6.2.1	The processes of learning and knowing in the GS COP in the Host Institution (sub-question 1).....	119
6.2.2	Value Creation in support of empowerment of pioneers (sub-question 2).....	122
6.3	Enabling and Constraining factors influencing the mentoring and learning of the pioneers in the community of practice, and the value creation process (sub-question 3) .	125
6.4	Recommendations.....	140
6.4.1	Recommendations for the province /host institution (within the case).....	141
6.4.2	Recommendations that can potentially to be considered more widely in other contexts	142
6.4.3	Recommendations for further research	142
6.5	Conclusion	144
References.....		146
Appendices		152

LIST OF APPENDICES

Number	Appendix
1	Invitation letter and Interview schedule (dates)
2	Interview schedule (questions) – example for Mentors
3	Questionnaire to Pioneers
4	Transcription of interview – an example
5	Letter to HOD of Host institution
6	Consent form – Participants
7	Consent form – SANBI
8	Permission from Host Institution to use them as a case study
9	Analytical memo process 1 using COP for all – transcript to show 4 categories as well as emergent factors (enablers and constraints)
10	Analytical memo process 2 (VCF – mentors)
11	Analytical memo process 2 (VFC - pioneers)
12	Enabling and constraining factors – Pioneers
13	Enabling and constraining factors – Mentors
14	Enabling and constraining factors – Relationship between Mentors and Pioneers
15	Enabling and constraining factors – Institutional environment
16	Emergent properties - Mentors
17	Emergent properties - Pioneers
18	Emergent properties - Relationship between Mentors and Pioneers
19	Emergent properties – Institutional environment
20	Letter of commitment of placement in permanent jobs from Host institution
21	Photographs to show interactions in the CoP

LIST OF FIGURES

- Figure 2.1 SANBI's roles and activities ... 20
- Figure 2.2. Components of a social theory of learning (Wenger, 1998) ... 31
- Figure 2.3 The Community of Practice model as applied to this study, indicating the domain, community and practice directly involved in learning together, as well as those that supported them and the broader Groen Sebenza context (adapted from Wenger, 1998; 2015) ... 33
- Figure 2.4 Framework for evaluating value created from social learning in networks (adapted from Wenger et al., 2011, p. 3) ... 40
- Figure 4.1 Community of Practice Social Learning Framework (Adapted from Wenger, 1998) ... 58

LIST OF TABLES

- Table 3.1 Initial Abductive Coding of the Data ... 51
- Table 3.2 Coding for abductive analysis of value creation ... 52
- Table 6.1 A summary of the Enabling and Constraining factors influencing the mentoring and learning of the pioneers in the communities of practice, and the value creation process ... 110

CHAPTER 1

INTRODUCTION TO THE CONTEXT OF THE STUDY AND RESEARCH QUESTIONS

1.1 Introduction

This research project focusses on a job creation programme named ‘Groen Sebenza’ [Green Work]. Groen Sebenza is an environmental education ‘incubator’ programme driven and implemented by the South African National Biodiversity Institute (SANBI) to unlock green jobs and bridge the gap between education and job opportunities in the biodiversity sector in South Africa. The programme is a key intervention to strengthen biodiversity human capacity development in the biodiversity sector in South Africa, seeking to contribute to transformation of the biodiversity sector, and also address issues of youth unemployment in the country. The young ‘interns’ in the programme were called ‘pioneers’ at the start of the project.

This research project explores how a host institution operating as a community of practice within a landscape of practice managed to implement the Groen Sebenza programme by absorbing and appointing all their pioneers into sustainable jobs beyond the pilot project. The chapter introduces the Groen Sebenza programme, the research context and questions that guided the study, and provides an overview of the thesis.

1.2 Introduction to the Groen Sebenza Programme

1.2.1 History and context shaping the establishment of the Groen Sebenza programme

South Africa is the third most biodiverse country in the world (SADC, 2014). New opportunities for improved service delivery, job creation, sustainable development and quality of life can be realized cost effectively by generating additional value from South Africa’s abundant natural resources. South Africa as a developing country has an advantaged position

to exploit green jobs via the emergence of a green economy. It will only be fair for this green economy to be leveraged equally and equitably by all citizens of South Africa, especially young unemployed university graduates. As noted by the Development Bank of Southern Africa's report on Green Jobs (DBSA, 2011) and the Human Science Research Council (HSRC, 2009), there is exponential growth in the demand for biodiversity skills. The biodiversity field and wider green sector is an expanding sector which is capable of fostering South African growth and employment provided it is supported by enabling environments (Balmford et al., 2002; Agrawal & Redford, 2006; Montmasson-Clair, 2012).

Currently, investment in the green economy is primarily focused on energy related technologies and the country has yet to realise the significant value of biodiversity related markets. Ecosystem services, such as grazing and pollination, underpin agricultural industry, estuaries provide nurseries for many fisheries, wetlands naturally purify water and the tourism industry relies on natural infrastructure (globally eco-tourism is the fastest growing form of tourism). The value of ecosystem services so far measured in South Africa is conservatively estimated at ZAR 73 billion per annum (or 7% of GDP). One example of the local impact is the Manalana wetland near Bushbuckridge in Mpumalanga, inhabited by a highly impoverished, marginalised population of approximately 500,000 people. The wetland contributes services (e.g. grazing, crops, crafting materials) estimated at ZAR 3,466 per household per year to some 70% of local households (Jobs Fund, 2011).

Job creation potential: The Green Economy Summit held in May 2010 in South Africa predicted that the green economy can generate 400,000 new jobs in South Africa within five years. Information released by the Development Bank of Southern Africa (DBSA) indicated that the potential for sustainable jobs in natural resource management outweighs those in all the other green sectors (energy generation, efficiency and pollution mitigation) by more than two to one (ibid).

Initial contextual profiling undertaken for this study (Fullard, 2015), revealed that the idea of a programme to address the issue of unemployed graduates was first mooted at the very first national skills summit held in September 2010. The Chief Executive Officer of the National Research Foundation at the time challenged the summit participants to create employment through the Jobs Fund project managed by the DBSA on behalf of government's Department of National Treasury. The Chief Executive Officer of the South African National Biodiversity

Institute (SANBI) at the time responded to the challenge and the idea of the Groen Sebenza (Green Work) programme was born. The Chief Director for Biodiversity Mainstreaming and Planning at SANBI was tasked to convene a meeting of key organisations with biodiversity mandates. A brainstorming workshop to explore the opportunity that the Jobs Fund posed was held. Based on the deliberations of the workshop together with “Making the Case for Biodiversity” work that was done in SANBI, it was agreed that a project proposal be developed for submission to the Jobs Fund. This was also closely linked to the Biodiversity Human Capital Development Strategy that had been released in 2010 (SANBI/Lewis, 2010) which articulated a need for transformation in the biodiversity sector, and attraction of new young people into the sector. A team of sector leaders working with SANBI and GreenMatter developed the Groen Sebenza proposal with the latter giving much attention to the design of an innovative incubator model, with a strong commitment to a partnership initiative also emerging from the deliberations. It was agreed that the sector as a whole needed to be involved although the initial focus was the private sector and municipalities, since these were the areas where the most jobs were likely to be created. The Bioregional network known as the Managed Network within SANBI was mobilized to participate, including the known signatories to SANBI’s bioregional programmes such as the Succulent Karoo Ecosystem Programme (SKEP), Cape Action for People and Environment (CAPE), as well as private companies and municipalities.

Groen Sebenza was therefore conceptualised as an ‘incubator’ programme driven and implemented by the South African National Biodiversity Institute (SANBI) to unlock green jobs and bridge the gap between education and job opportunities in the biodiversity sector. The two key focus areas it sought to address as highlighted by the Biodiversity Human Capital Development Strategy 2010-2030 (SANBI/Lewis, 2010) were the transformation in the sector and the lack of priority skills. As a response to these key strategic objectives, Groen Sebenza was initiated and 800 unemployed graduates and non-graduates (school leavers) from previously disadvantaged backgrounds were recruited into the biodiversity sector. The programme was a pilot partnership programme, a first for the sector, aimed at giving the young people the necessary workplace experience through a structured skills development, training and mentoring programme, which forms the focus of this study.

This innovative initiative was funded by the National Treasury through the Development Bank of Southern Africa’s Jobs Fund Project and 43 public, private and non-governmental

organisations in the local biodiversity sector partnered with SANBI to implement the Groen Sebenza programme (see details below). The Jobs Fund project, towards the end of October 2014 moved back to the National Treasury and then resided within the Government Technical Advisory Centre (GTAC). Most recently, the Groen Sebenza programme, initiated in 2010, is integrated into the COVID-19 response plan of the President's Office, indicating that the initiative started 10 years ago, and which formed the focus of this study, continues to provide opportunities for job creation in the environmental sector (Office of the President, 2021). While the programme has continued, my study focusses on the first phase of the programme only (2013-2016), but insights are potentially useful for the continued development of the Groen Sebenza programme, and other initiatives that seek to use internship / incubator models of mentoring for integrating young people into viable jobs in organisations.

The training and mentoring of the pioneers within an 'incubator model' aimed to build a pool of young and capable professionals in the biodiversity sector. The project was committed to unlock opportunities for young people to secure permanent jobs in the sector beyond the project period. It was an objective of the partnership approach of Groen Sebenza, to result in a strong, integrated, multi-institutional skills development and job creation system (see further detail below).

1.2.2 Scale of the programme

The programme was implemented on a national scale with all 9 provinces in South Africa hosting the interns or prospective employees (named 'pioneers' to address limitations in the internship discourse) in the programme. The programme was officially launched by the minister of Environmental Affairs on 08th June 2013. A total of 946 pioneers were recruited since the start of the programme in May 2013 and about 300 mentors participated. Of the 946, 85% pioneers had been placed in permanent jobs at the end of the programme in May 2016, which marked the end of first phase of the Groen Sebenza programme. The programme has been extended in various ways since then, but this study focusses in on the first phase only. Fieldwork for this study took place towards the end of the programme.

Of the 946 pioneers, 555 graduates and 245 non-graduates (school leavers) who, as mentioned above, are referred to as 'pioneers', were placed with one of the 43 participating organisations or host institutions in the sector (see detail below). Pioneers from mostly previously

disadvantaged areas and from rural, distressed peri-urban and urban areas were placed across the country for a period of two-and-a-half years where they spent time in the Groen Sebenza ‘incubator’ getting hands-on work experience, received invaluable mentoring from biodiversity professionals, occupation specific training and developed their skills at these host institutions.

1.2.3 The partnership model

The Groen Sebenza programme started out with 21 partners or host institutions on board and according to the monitoring and evaluation report, the programme grew to 43 host institutions in the first phase of operation (SANBI, 2016), and included government departments (all three tiers), non-governmental organisations (NGO’s), private companies, and national and provincial public entities. Besides the host institutions, organisations like GreenMatter and the Tony and Lizette Lewis Foundation were key partners in the first phase that supported the programme in other ways. In an innovative approach for the sector, the Groen Sebenza project sought to pilot an integrated, multi-institutional system to facilitate skills development and job creation across public, private and non-governmental organisations. The following 43 organisations, together with SANBI who hosted 148 pioneers, committed to hosting skills development placements for unemployed youth in the pilot (number of placements hosted is given in brackets):

- **Government departments:** Department of Environmental Affairs (DEA) -Natural Resource Management (91), DEA-Sector Education and Training (50), Department of Economic Development, Environment and Tourism (DEDET) - Mpumalanga (5), Limpopo Department of Economic Development Environment and Training (LEDET) (120), DEDET- North West (6), Department of Environment Nature Conservation (DENC) - Northern Cape (8), Department of Economics, Environment, Tourism and Agriculture (DETEA)- Free State Provincial Government (5), Department of Economic Development, Environment, Agriculture and Tourism (DEDEAT) - Eastern Cape (1), City of Tshwane (6), Ekurhuleni Municipality (5), Johannesburg City Parks and Zoo (5), Midvaal Municipality (5), City of Cape Town Municipality (1), Nketoana Local Municipality (1), Setsotho Local Municipality (1), Dihlabeng Local Municipality (1), Nelson Mandela Bay Municipality (17).

- **Public Entities:** South African National Parks (SANParks) (51), SANBI (109), Ezemvelo KwaZuluNatal (KZN) Wildlife (20), CapeNature (43), Eastern Cape Parks and Tourism Agency (ECPTA) (7), and Isimangaliso Wetland Park Authority (8).
- **Non-Governmental Organisations:** Wildlife and Environment Society of South Africa (WESSA) (58), Cape West Coast Biosphere Reserve (13), Waterberg Biosphere Reserve (4), Association of Water and Rural Development (AWARD) (3), Chrysalis Academy (16), South African Wildlife College (2), Gondwana Alive (6), Ground Truth (3), Living Lands (2), Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) (4), Endangered Wildlife Trust (12), Duzi uMngeni Conservation Trust (DUCT) (4), World Wide Fund for Nature (South Africa) (WWF-SA) (25), Indigo Development and Change (2), Environmental Monitoring Group (EMB) (3), Conservation South Africa (5), Botanical Society of South Africa (5), Wildlands Conservation Trust (38), Wilderness Foundation (1).
- **Private Sector:** Rhodes University (6), Nature Conservation Environmental Services (9).

As can be seen from the above, this represents a significant sector-based commitment to supporting green skills development as well as a significant sector-based co-operative process to strengthen biodiversity human capacity in the sector. It was therefore a key national intervention to address skills needs and build capacity of next generation biodiversity professionals for the sector, thus also being an important transformation intervention into the sector, as was recommended in the 2010 Biodiversity Human Capital Development Strategy (BHCDS) (SANBI/Lewis, 2010).

Based on interest shown during consultations, SANBI could have also expanded the private sector component substantially if required, but it was decided to support the country's many biodiversity institutions starting with state and non-governmental conservation organisations first in order to support the sector overall via the Groen Sebenza programme. All of the partners were well established organisations, with a track record in ecosystem management and in most cases have also invested institutionally in skills development initiatives. The partners also committed to providing part of the co-financing contribution, as did the Tony and Lizette Lewis Foundation (a public benefit organisation), which was already in partnership with SANBI to fund and support the implementation of the Human Capital Development Strategy for the

Biodiversity Sector (SANBI/Lewis, 2010), which as mentioned above was also a key driver of the Groen Sebenza programme and proposal.

1.2.3 Policy features of this programme

SANBI was designated to lead, in partnership with other key players, in strengthening and diversifying the human capital of South Africa's biodiversity sector (identified as necessary in both the National Biodiversity Strategy Action Plan of 2005 and the National Biodiversity Framework of 2007 (SANBI/Lewis, 2010)). The Ministerial Delivery Agreement for Outcome 10 in the Medium Term Strategic Framework of the South African government (RSA, 2010), included a target on the full implementation of the Environmental Sector Skills Plan (ESSP) (DEA, 2010) and the 20-year Human Capital Development Strategy for the Biodiversity Sector (BHCDS) (SANBI/Lewis, 2010). The BHCDS and the ESSP were developed 'in tandem' and the BHCDS, which is fully aligned with the broader ESSP and the biodiversity-related components of the Department of Science and Technology's Global Change Grand Challenge Human Capital Development Strategy (DST, 2010). It is interesting to note that these three major human capital development strategy initiatives all emerged in 2010, indicating a national need to give attention to skills development and transformation of skills in the environmental sector in South Africa overall.

The ESSP (Environmental Sector Skills Plan), (DEA, 2010), which was South Africa's first ever national environmental sector skills plan, identifies one of the key policy drivers as the Medium-Term Strategic Framework (MTSF) of national government. It states that it includes a "strong focus on quality education, skills development, rural development, sustainable human settlements and the sustainable use of natural resources" (DEA, 2010, p. 12). Sustainable use of natural resources is defined as a specific goal of the MTSF. The ESSP document also states that the sustainable development objectives of the MTSF have their roots in the South African Constitution.

In my contextual profiling work, undertaken to inform this study, I found a correlation between three key informants views on the policy drivers influencing Groen Sebenza, and the literature and particularly the ESSP document, which highlights the National Environmental Management Act (NEMA) (no.102 of 1998), the National Water Act (no.36 of 1998), the NEMA: Biodiversity Act (10 of 2004) and a host of other related or associated legislation, which according to the ESSP (DEA, 2010, p. 12) introduced a "people-centred approach to

sustainable development in South Africa”. This was a significant post-apartheid shift in environmental management discourse, which previously was based on policies of exclusion and separatist development under the apartheid state.

Other policy drivers include the National Development Plan 2030, the New Growth Path Framework of 2010 with its various accords (Youth employment, Green Economy and National Skills), the National Skills Development Strategy III (RSA, DHET, 2011 p128-149) which for the first time included a focus on green skills, as well as rapidly emergent environmental legislative framework for example, the NEMA: Waste Management Act of 2008 (RSA, 2008). South Africa is also signatory to international conventions such as the Convention on Biological Diversity which commits the country to custodianship of a global treasure of plant and animal species. In 2015 South Africa also signed up to the global Sustainable Development Goals which also include commitments to biodiversity management and protection within a broader sustainable development orientation. Almost all of these policies require human capacity development, as was also outlined in the DEA (2010) Environmental Sector Skills Plan. Of importance is that the ESSP (DEA, 2010) identified that South Africa had a problem of a ‘reactive’ approach to skills development, hence many skills capacity gaps were identified. As indicated above, these together with this policy backdrop, motivated the Groen Sebenza intervention.

1.2.4 Green jobs or occupations

The green jobs or occupations in the SANBI Groen Sebenza Programme against which pioneers were recruited for included the following positions that were linked to the biodiversity human capital development research done in the sector and subsequent identified scarce skills in the biodiversity sector (SANBI/Lewis, 2010).

- *School leavers / non-graduates:*

Assistant Community Facilitators, Assistant Field Rangers, Extension Officers, Catchments for Communities Technicians, Conservation Workers, Eco-schools Assistants, Environmental Education Assistants, Intern Field Rangers, Intern Marine Rangers, Intern River Rangers, Junior Field Technicians, Para Data Capturers, Trainee Environmental Education Coordinators, Trainee Site Monitors.

- *Graduates:*

Archaeologists, Atmospheric Modellers, Biodiversity Monitoring Officers , Biodiversity Planners, Biosafety Monitors, Blue Flag Trainers, Botanists, Chemical and Civil Engineers, Climate Change Educators and Scientists, Coast Watch Coordinators, Communications Officers, Community Building and Liaison Officers, Educators, Eco-rangers, Environmental Impact Assessment Coordinators, Environmental Chemists, Environmental Health Scientist, Environmental Managers, Field Ecologists, Field Rangers, Geographers, GIS Technicians, Horticulturalists, Hydrologists, Information Officers, Infrastructure Managers, Integrated Catchment Managers, Law Admin Officers, Marine Biologists, Microbiologists, Oceanographers, Para-ecologists, Para-taxonomists, Quantitative Geneticists, Research Assistants, Research Technicians, Reserve Managers, Restoration Specialists, Statisticians, Stewardship and Extension Officers, Student Scientists, Waste Management Specialists, Wetland Ecologists and Youth Development Project Managers.

1.2.5 Educational methodological approaches

As indicated above, the Groen Sebenza programme was as much an environmental education / skills development programme as it was a job creation programme. Importantly therefore, was the need to develop a substantive educational methodological approach to the programme.

- *A social learning orientation and approach*

The fact that the Groen Sebenza programme was a pilot partnership programme involving so many stakeholders, its approach was to a great extent participatory and leaned strongly towards social learning as an educational methodological approach in the implementation process as also alluded to by a key informant (Fullard, 2015) stated that ‘we are all learners and educators’ in this process and that ‘solutions need to be worked out together’. Social learning is often referred to as a “way of organizing individuals, organisations, communities and networks, that is particularly fruitful in creating a more reflexive, resilient, flexible, adaptive and, indeed, ultimately, more sustainable world” (Wals, 2007).

Given the active participatory nature of the programme, another relevant educational approach would be the notion of a community of practice, a concept or term coined by Wenger and Lave (1991). Wenger (2008, p. 4) describes communities of practice as “groups of people who share

a concern or a passion for something they do and learn how to do it better as they interact regularly”. He further states that “Communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour: a tribe learning to survive, a band of artists seeking new forms of expression, etc.” (Wenger-Trayner & Wenger Trayner, 2015, <https://wenger-trayner.com/introduction-to-communities-of-practice/>) and in the case of Groen Sebenza, a group of 43 partner organisations within a sector trying to address and respond to the issues of transformation in the sector as well addressing the skills gap that exists and bridging the gap between qualifications and workplace experience. As can be seen above, smaller communities of practice consisting of pioneers and mentors were established in each of the participating organisations, while they co-operated together within a larger Groen Sebenza community of practice on a landscape of practice. This approach is discussed in more depth in Chapter 2, and informed the study’s analytical approach.

- *Incubator model of implementation and capacity building*

The SANBI project proposal to DBSA’s Jobs Fund project described the incubator as a concept successfully applied in other sectors but being piloted for the first time in ecosystems management. It stated that the project will build capacity within SANBI and initially 21 (but later 43) partner host institutions to develop and scale up a strong, integrated, multi-institutional skills development and job creation system. Partners from public, private and non-governmental agencies were been consulted and expressed enthusiasm to be part of the pilot, which was also an innovation in the sector and strengthened the proposed process. It further explained that the innovative concept to be piloted was an ‘incubator’ model consisting of a virtual recruitment, training, and mentoring hub that is supported and coordinated across organisations in which smaller communities of practice existed. The incubation model is based on a concept adopted from the business sector. There are often challenges when starting and developing an enterprise, so business incubators are there to provide support services to start up (C.I.Com organisation & IMIS, n.d., presentation). As cited in Madiba, M (unpublished thesis, 2016), the incubation model is used by “new” business firms to outsource assistance and support that creates highly skilled, cost effective occupations needed in the structure (Aranha, 2003; AL-Mubaraki & Busler, 2012). It further states that its outcomes or goals concentrate on creating opportunities for entrepreneurship, job creation, employment,

innovation and developing local economies, and technology commercialization (Centre for Strategy & Evaluation Services, 2002; AL-Mubarak & Busler, 2012) especially or supposedly for disadvantaged groups (Lalkaka, 2001). The success of using this model is context related and usually its frameworks cannot be translated into the other contexts without adjustments (AL-Mubarak & Busler, 2012).

The incubator concept has been applied successfully in other contexts (e.g. in the retail sector) but has never been tried in the environmental sector. An innovation in the Groen Sebenza programme was the fact that the incubator model was conceptualised to go beyond the normal, single agency, 6-12-month internship programme to provide a networked, extended skills development scheme in a wider landscape of practice over a period of two-and-a-half years and across multiple agencies. Such a scheme sought to enable unemployed youth to more effectively bridge the skills gap between education and work.

Participants were screened and provided with group training in primary science and ecosystem management content and in generic life and work skills, such as advocacy and community engagement. They were then placed in one or more of the host organisations (depending on whether their placement included a rotation), where they were mentored and received job-specific in-house training. Participants were also encouraged to expand their formal qualifications (e.g. Honours, learnerships, B.Tech etc.), to further enhance their employability.

As opposed to an isolated short-term placement in one organisation, they were networked with the incubator trainers and fellow incubator participants, spread across the sector and through this they were given exposure to a range of roles in the biodiversity sector, throughout their placement (nationally and through geographical nodes) and through being able to network with others in other placements. This, together with the rotation option, gave participants a broader perspective and increased appreciation of the opportunities available in the sector.

Working across public, private and non-governmental agencies to establish a strong, integrated, multi-institutional skills development hub was also an innovation in the sector. It attempted to build a better understanding of institutional linkages, enabling career paths within and between institutions, and also capitalised on partners' existing experience while offering participants a richer skills development experience through a more comprehensive process. It also supported increased efficiency and quality in training and mentoring (e.g. through the group inductions

and support to partners, such as the provision of mentoring guidelines). The incubator model was therefore critical to the establishment of the social learning orientation to the programme.

1.2.6 Governance structures and principles guiding the Groen Sebenza programme

The programme was governed by the following committees: A Project Steering Committee (PSC) who provided strategic direction to the programme; a Programme Management Committee (PMC) who, as the engine room of the programme, assisted with coordinating the operational implementation of the programme; various task teams included the Mentoring and Training Task Team, Recruitment and Selection Task Team, Monitoring and Evaluation Task Team, and Marketing and Communications Task Team. These were all either housed within or worked closely with the SANBI Project Management Unit (who implemented the programme). Each of these structures had a clearly defined terms of reference that spelt out their roles and responsibilities. The programme developed a “blue print” document, called the Programme Master Plan of Groen Sebenza (SANBI, 2014), which sought to resolve hindrances to the co-operative approach, and acted as a blueprint for Groen Sebenza’s implementation, providing guidance on key areas such as governance principles, principles of co-operation, Monitoring and Evaluation and more.

The project steering committee of the Groen Sebenza programme, which was an elected and representative governance structure of the programme, developed in consultation with partners a set of principles that helped to bind the partnership, which included the following:

1. Transformation of our sector is key for sustainability that in turn is driven by the belief in and growth of people, particularly young professionals entering and remaining in and/or committed to the biodiversity sector.
2. Active participation in an ethical, constructive and collaborative way, with consultation, communication, commitment, excellence, trust and integrity including the sharing of experiences, and learning together to enable all to grow and be empowered.
3. Mutual respect and creating an enabling environment with sensitivity to the diversity of the wide range and circumstances of the many people, organizations, institutions and role players towards the success of this great enterprise.
4. Commitment to biodiversity and our environment, to its sustainable use, conservation and protection, as custodians of this great national asset of our country

5. Using state funds according to the law and regulations, effectively, efficiently and with transparency in compliance with agreements made
6. Collective responsibility for the challenges and successes of Groen Sebenza (SANBI, 2014).

The above principles were guiding principles that were put in place to ensure good governance, and contributed to the sustainability of the programme. The partnership model was an important strength of the programme in terms of its longer term sustainability. It brought great diversity, complexities but more importantly, it brought together a collective of skills, history and reputation of good governance, expertise, experiences and a shared commitment to biodiversity conservation and human wellbeing in the country.

1.2.7 Evaluation processes

Jarvis (2000), talks about a ‘learning society as a reflective society’. He contends that reflective learning and practice are commonplace ideas influencing educators today. A key practice advancing internal reflexivity of the Groen Sebenza programme was the Monitoring and Evaluation (M&E) processes that were instituted. The programme appointed a service provider to coordinate and manage the monitoring and evaluation of the programme. Evaluation was therefore an integral, crucial component and philosophy of the programme to support internally reflexive processes within each organisation but also across the programme. The purpose of the M&E processes was to identify areas of improvement to strengthen and improve the practice and roll out of the programme. An evaluation framework was developed with the focus on three broad impact areas:

1. Enhanced employability in the biodiversity sector
2. Enhanced capacity of the sector to create employment opportunities
3. Development of a replicable model for job creation and skills development

The following areas were explored for each of the impact areas: relevance, efficiency, effectiveness, impact and sustainability (SANBI, 2014).

Additionally, evaluation of the Groen Sebenza programme by the service provider needed to fulfil the following roles:

- Accounting to the stakeholders: National Treasury, DBSA, SANBI and Host Institutions, Pioneers, the public and politicians.
- Capturing data and stories for communication purposes.
- Improving processes including training; mentoring; management; communications; partnership building, in order to improve outcomes.
- Analysis of the programme experiences and lessons learnt – what works and why?
- Advising about areas for improvement based on analysis of trends.
- Documenting and sharing lessons learnt, primarily in the programme but also beyond and informing possible replication (SANBI, 2014).

1.2.8 My positionality in the Groen Sebenza programme

My role in the programme was that of the national programme manager for Groen Sebenza and I managed a small team of staff (8) in the Programme Management Unit (PMU) at SANBI, where I worked closely with the SANBI management, and the PSC. I was responsible for the implementation and coordination of the programme at a national level and had to interact and engage with multiple stakeholders, including the host institution coordinators and heads of the 43 institutions, mentors, pioneers, government officials, departments (local, provincial and national) and academic institutions. My role was both strategic and operational in nature in ensuring that the main target of creating 800 jobs beyond the project period was achieved, a daunting task, given the economic climate then both globally and locally in South Africa.

My interest in the research was driven and motivated as the programme manager to contribute to, and inform the sector of the factors that could shape the future implementation of programmes of similar nature as well as the following rounds of the Groen Sebenza programme as envisaged, both structurally and from a capacity development perspective. Hence I sought to consider a systems perspective in this research, to assist at looking at ‘better ways to understand and plan for green skills for green work’ and “to move green skills planning and capacity in South Africa from re-active to proactive” (ILO, 2011; DEA, 2010).

1.3 Research interest and questions

1.3.1 Research interest

The focus of this study is to offer a case study of lessons learned in a landscape of practice within the Groen Sebenza Programme by a Host Institution. In delineating this focus further, I sought to better understand the process of supporting and empowering unemployed youth into sustainable green jobs within the Groen Sebenza partnership programme. I was particularly interested in how this took place and was supported by a Host Institution. In this study I refer to the actors working together in the host institution with the young ‘pioneers’ as a Community of Practice (CoP) given the programmes overall commitment to social learning as outlined above.

I was interested in the support provided for recruitment and retention of unemployed young people into the sector. I was also interested in the empowerment of the pioneers, by which I mean opportunities for training, workplace experience, growing professionally and personally, support and mentoring, hence I needed to use the unit of analysis of a Community of Practice as these actors were all involved in supporting the empowerment and retention of the young pioneers in the host institution. To develop deeper insight into the learning and knowing, and value created in and by the Groen Sebenza CoP in the Host Institution, I also sought insight into enabling and constraining factors and how these shaped and contributed to empowerment and retention of the pioneers in sustainable green jobs. The following research questions were defined:

1.3.2 Main research question and sub questions

How did processes of learning, knowing and value creation contribute to empowerment and retention of unemployed youth in a successful Host Institution in the Groen Sebenza programme, and what enabled or constrained the empowerment and retention processes and outcomes?

Sub questions:

1. How did **mentoring, training and workplace experiences** contribute to the process of learning and knowing within the Groen Sebenza Community of Practice in the Host Institution? [Addressed in Chapter 4]
2. What **value creation elements** emerged in the implementation of the programme in support and empowerment of the pioneers in the Host institution's Groen Sebenza CoP? [Addressed in Chapter 5]
3. What **enabling and constraining factors** shaped and contributed to the uptake of the Pioneers into sustainable green jobs at the Host Institution within the Groen Sebenza Programme? [Addressed in Chapter 6].

1.4 Overview of thesis

This chapter introduced the Groen Sebenza programme, in which this case study research was located. It also introduced my positionality in the research, and the research questions.

The next chapter, **chapter two** provides a conceptual framework where the key concepts relevant to this research are discussed in more detail. The discussion of concepts flows into the theoretical framework for the study and the theories that enabled me to explore the learning and practices within the Groen Sebenza CoP. These frameworks include Communities of Practice following Wenger (2008) and its associated social learning Value Creation Framework (Wenger, Traynor and De Laat, 2011), which, in this study, were underlaboured by Margaret Archers' (2000) social realist theory in which cultural, structural and personal emergent properties can be identified as enabling and/or constraining factors. This chapter paves the way for the unfolding of the rest of the dissertation.

Chapter three describes the way in which this study was designed to answer the research questions outlined above. Ways in which the data was generated are discussed along with the different phases of the study design. This is followed by the approach which was taken to analyse the data and to ensure the validity and trustworthiness of insights that emerged. Towards the end of this chapter the ethical concerns are addressed along with the limitations in the study.

Chapter four presents the data generated in the study related to the integration of the four components that characterise social participation as a process of learning and knowing within a community of practice. The chapter addresses the first research question providing insight into the learning and knowing of pioneers and mentors in the Groen Sebenza CoP in the host institution.

In **Chapter five** I present the data generated in the study that relates to the Value Creation Framework, looking at the five enabling and strategic values and how they contributed to the successes related to retention and empowerment of the pioneers who were in the Groen Sebenza CoP in the host institution. The Chapter addresses research question 2.

Chapter six presents the data that speaks to the enabling and constraining factors identified and how they relate to the cultural, personal and structural emergent properties that enabled and/or constrained the retention and empowerment of the pioneers in the Groen Sebenza CoP. These relate to the pioneers and mentors themselves, relationships between them, as well as institutional factors. The chapter reveals the importance of structural and cultural emergent properties in the institutional context, as well as some of the cultural and personal emergent properties amongst pioneers and mentors, especially those related to successful relationship building and creating a supportive and enabling environment for learning and professional development within an empowerment orientation.

The chapter additionally provides the conclusion, with a summary and a reflection of the research journey. It shares some recommendations for the biodiversity skills sector, especially potentially useful insights into ongoing extensions of the Groen Sebenza programme. Recommendations for further research are also discussed in this chapter.

1.5 Conclusion

As recently as September 2020 as this study was being finalised, the Presidential Employment Stimulus Plan (Office of the President, 2020) following the initial economic shocks emanating from the COVID-19 pandemic, made yet another commitment to using the Groen Sebenza model to create and support sustainable job creation for young people in South Africa today in the environmental sector.

This study has been developed and designed to understand those processes and enabling conditions that can support retention and empowerment of young people to take up jobs in the environmental sector today. Its recommendations may therefore be of value to those involved in seeking to support sustainable impacts in terms of retention and employment in programmes such as the Groen Sebenza, and in the Groen Sebenza programme itself as it continues to unfold as a key job creation tool for unemployed youth.

This chapter has presented the background to and an overview of the research in order to make the intended purpose explicit. The research purpose and questions are put forward along with a brief introduction to the research context and the site. The chapter aims to set the scene for the chapters that follow.

CHAPTER 2

CONTEXTUAL AND THEORETICAL FRAMING OF THIS STUDY

2.1 Introduction

As indicated in Chapter 1, my research is located within the Green Skills research area and I will be doing a case study of lessons learned in a Community of Practice involving pioneers, mentors and managers, within the Groen Sebenza Programme in a successful Host Institution of the Groen Sebenza programme. The host institution is a provincial government department.

The Chapter extends the introduction of the Groen Sebenza programme presented in Chapter 1 with a further contextual and conceptual overview of the Groen Sebenza programme and its objectives of contributing to Green Jobs and the Green Economy. It also provides insight into the focus on youth unemployment to which the programme responds, and links this to the Sustainable Development Goals that are of relevance to the Groen Sebenza programme. In particular, I introduce the theoretical dimensions of the incubator model used in the Groen Sebenza programme as this was the programme that shaped the contextual dynamics in which youth and host institution in this study were participating.

As indicated in Chapter 1, I am interested in the retention and empowerment of unemployed youth (termed ‘pioneers’ in the Groen Sebenza programme) into sustainable green jobs in this programme, and to understand the learning and knowing in the Community of Practice as well as the value created and the enabling and constraining factors that shaped or influenced the retention and empowerment in the Host Organisation. In addition to the contextual and conceptual dimensions of this study, this chapter introduces the theoretical tools that I used in the study.

2.2 The Wider Context: A contextual and conceptual overview of the Groen Sebenza Programme

As indicated in Chapter 1, the Groen Sebenza programme is a sector-wide initiative that was started by the South African National Biodiversity Institute (SANBI) in South Africa, which has custodianship of South Africa's Biodiversity. The South African Convention on Biodiversity report indicates that South Africa is an incredibly rich and biodiverse country. It states:

While it occupies only 2% of the world's land surface area, South Africa is home to 10% of the world's plant species and 7% of its reptile, bird and mammal species. Furthermore, it harbours around 15% of the world's marine species. Endemism rates reach 56% for amphibians, 65% for plants and up to 70% for invertebrates (<https://www.cbd.int/countries/profile/?country=za>)

Furthermore, the CBD report states that:

South African biodiversity is at present greatly endangered. National Red List assessments indicate that 10% of South Africa's birds and frogs, 20% of its mammals and 13% of its plants are threatened. In terms of natural ecosystems, the National Spatial Biodiversity Assessment (NSBA) (2004) revealed that 82% of the main river ecosystems are threatened, with 44% critically endangered, 27% endangered, and 11% vulnerable. Of the country's 440 vegetation types, 5% are critically endangered, 12% are endangered and 16% are vulnerable; 3 of the 13 estuary groups are critically endangered, a further 5 are endangered and 2 are vulnerable; 65% of the 34 marine biozones are threatened, with 12% critically endangered, 15% endangered and 38% vulnerable. In regard to freshwater ecosystems, the assessment revealed that only 29% of the country's main rivers were unmodified, or largely unmodified, and an estimated 50% of South Africa's wetlands have been destroyed.

(<https://www.cbd.int/countries/profile/?country=za>)

This dire situation, raises the need for higher levels of capacity to care for, manage and protect South Africa's biodiversity and environment. SANBI is a leading custodian of biodiversity in South Africa. The diagram below shows that SANBI works in investigating, recording and establishing the Foundations of Biodiversity in South Africa, it builds biodiversity knowledge

in society and draws on this science to develop policy and action; ultimately with the aim of improving human well-being through harnessing biodiversity value for society. It also works to manage some of the important sources of biodiversity in the country, especially national botanical and zoological gardens. A key mandate of SANBI is to ensure human capital development for the biodiversity sector in South Africa, which is much wider than the SANBI as an organisational entity, hence SANBI works in a variety of partnerships on the task of ensuring that South Africa’s biodiversity sector has adequate human capacity to manage and take care of South Africa’s biodiversity.

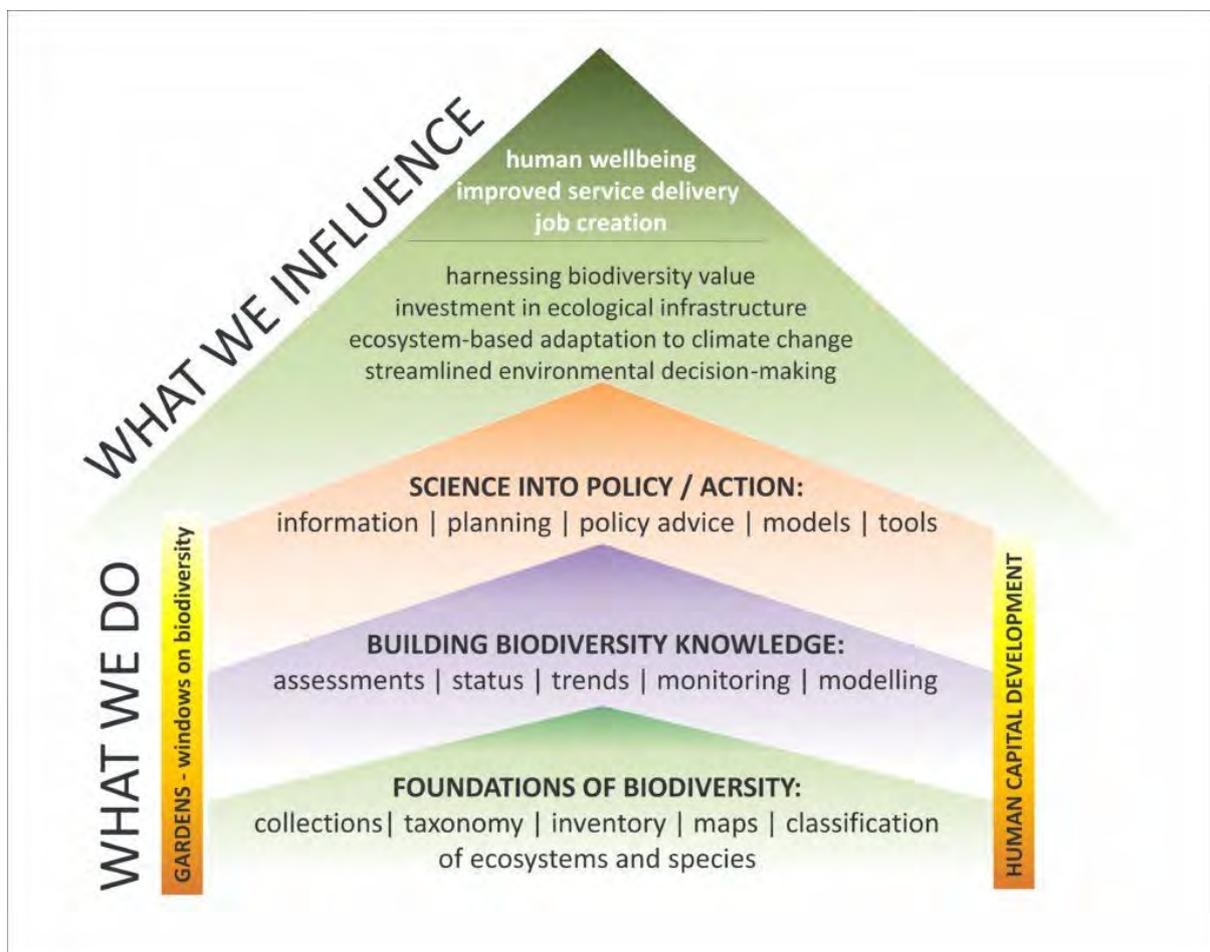


Figure 2.1 SANBI’s roles and activities – Source: <https://www.sanbi.org/biodiversity/>

In 2007 the National Biodiversity Framework (NBF) (DEAT 2008, p. 20) documented the need for a capacity building programme within the biodiversity sector to address transformation of the sector and to ensure that the sector works at attracting and retaining especially black South

Africans into the sector. The NBF had taken its cue from the National Biodiversity Strategy and Action Plan (NBSAP) (DEAT, 2005, p.80) which has the following Strategic Objectives:

- SO 2.1: The biodiversity sector is transformed and representative of South African society.
- SO 2.3: Institutions with biodiversity-related responsibilities are effective and adequately capacitated (cited in SANBI/Lewis, 2010).

The Department of Environmental Affairs and Tourism (now Department of Environment, Forestry and Fisheries), mandated SANBI to take the lead on these objectives of the NBSAP, and SANBI set itself the organisational strategic objective to become the lead agency for human capital development in the biodiversity sector.

Consequently, in 2010 SANBI, with support from the Lewis Foundation, commissioned a national Biodiversity Human Capital Development Strategy, with the objective of responding to the dire need for transformation of the biodiversity sector in South Africa. The very first paragraph of the executive summary of this document captures its purpose and intention very clearly, to which the Groen Sebenza programme was also responding:

All organisations involved in biodiversity conservation, research and management in South Africa need to participate in strengthening and transforming the sector. Conservation agencies, research institutes, government departments, private companies and not-for- profits with a biodiversity mandate all need capable and qualified managers, conservators or researchers, and to help increase the number of black South Africans in leadership positions for these functions (SANBI/Lewis, 2010, p. 1).

While this was the case for the biodiversity sector, the South African Environmental Sector Skills Plan (ESSP), developed by the Department of Environmental Affairs – also in 2010 – noted that a similar challenge was affecting the entire environmental sector, namely inadequate and reactive capacity building with inadequate transformation responses, as also briefly mentioned in Chapter 1. The Environmental Sector Skills Plan (DEA, 2010) articulated the following objectives which also gave impetus to the partnership structure and the objectives of the Groen Sebenza programme:

- Objective 1: Address environmental sector skills at macro-system level

- Objective 2: Address scarce and critical skills in the environmental sector
- Objective 3: Put measures in place to ensure a longer term, more sustainable supply of quality skills to the environmental sector
- Objective 4: Put measures in place to ensure a proactive, transformative and innovative skills development system for the environmental sector
- Objective 5: Support human capital development strategy planning at sub-focus and institutional levels
- Objective 6: Establish a system for monitoring and evaluation of skills planning and development in the environmental sector.

Objectives 2, 3, 4 and 5 provided impetus for the establishment of the Groen Sebenza programme, and especially also for its framing as a sector-wide partnership programme. Initially the focus was mainly on biodiversity (mainly in Phase 1 of the programme) but today the Groen Sebenza programme has been widely adopted to service a number of environmental sub-sectors. The findings of this study offer useful insights towards Objective 5 and can also inform aspects of Objective 6 (cf. Chapter 6).

Showing the close connection with above-mentioned developments in South Africa in the early 2010 period, the Groen Sebenza Monitoring and Evaluation Report (SANBI, 2016) clearly indicates the purpose of the Groen Sebenza programme, as follows:

The Groen (“Green” in Afrikaans) Sebenza (“Work” in isiZulu) Programme was conceived and implemented in order to address the capacity and capability constraints faced by the Biodiversity Sector in South Africa. The President’s Jobs Fund allocated money to this Programme in order to assist previously disadvantaged youth from rural and or urban distressed areas from around the country to obtain relevant work experience, as well as break into the job market (p. 7 – see also Chapter 1).

In his work on risk society, Ulrich Beck (1992, p. 21) firmly placed the origins and consequences of environmental degradation (e.g. the massive loss of biodiversity as reported on above and the unintended consequences thereof) right at the heart of a theory of modern society, but according to Irwin, (2001, p.52), Beck’s analysis of the risk society suggests that “centralised institutions such as national governments are fundamentally incapable of responding to contemporary environmental and risk concerns”. He indicates that, instead,

“these institutions are largely trapped within the very sets of assumptions that have generated the current crisis for modernity”. He asserts that Beck’s argument therefore is that “the challenges currently being faced cannot be resolved by a mere reorientation of current policy directions and patterns of technological development”. For SANBI and the Groen Sebenza programme, this means that new innovations are needed to address the complexities of risks associated with biodiversity loss, AND the challenges of transforming the sector at the same time.

Since 1994, through a massive investment in the development of environmental institutions such as SANBI, and legislation, policy and strategy such as the NBSAP and the ESSP and the Biodiversity Human Capital Development Strategy, including the South African Constitution of 1996, the government of South Africa has committed itself to creating a prosperous and equitable society living in harmony with natural resources, protecting the country’s rich biodiversity heritage for the benefit of all its citizens. Government, through its Department of Environmental Affairs, Forestry and Fisheries and other national departments such as Water Affairs and Sanitation, Agriculture and Land Affairs, and national and provincial statutory bodies like SANBI and SANParks, plays a leading role in the protection and conservation of our natural resources. As shown above, South Africa, as a country has embarked on a journey to fulfil and achieve the rights of all South Africans to a healthy environment that is protected and developed sustainably for current and future generations, as enshrined in the 1996 Constitution of the Republic of South Africa (RSA, 1996). This journey has, however, been hampered by capacity constraints, as also reported on above and in Chapter 1.

This has paved the way for programmes like Groen Sebenza, which carries the support of government, to be able to make an impact and contribute to key socio-political and economic transformation such as youth development, poverty alleviation, rural development and skills development. I would therefore say that capacity development programmes such as Groen Sebenza contributes to reduce the risk we face as a country in terms of conserving our natural resources and address environmental issues, while also attending to other issues such as transformation of institutions, and youth development and employment.

The host institution that forms the case context for this study is a provincial environmental department, and was identified as one of the best performing host institutions of the Groen Sebenza programme (SANBI, 2016), and in the Phase 1 of the Groen Sebenza programme, this

Department hosted 10 Pioneers from previously disadvantaged and rural backgrounds and teamed them up with experienced biodiversity and environmental management professionals to “learn, grow and eventually gain the competence and confidence to embark on rewarding and meaningful biodiversity careers” (DENC 2014/15, p. 6)

The environment and conservation work of the host institution, covers an area the size of one third of the total land mass of the country and their vision speaks to a prosperous society living sustainably with the natural resources and their mission is to conserve and protect the natural environment for the benefit, enjoyment and welfare of present and future generations by integrating sustainable utilisation with socio-economic development, reflecting the Constitutional principles and the mandate of the post-1994 environmental governance framework of South Africa. While this is the case, the provincial department (as host institution) was also hampered by skills shortages, like many other organisations in the sector (SANBI/Lewis, 2010; DEA, 2010).

According to the host institution’s Annual Report 2013/14 (p. 30), the high unfunded vacancy rate in critical line and support function posts as well as the number of unfunded regulatory mandates in the form of new national legislation pose serious organisational and service delivery challenges, an issue that was shared more widely at national level as was reported in the ESSP (DEA, 2010). Unfortunately, the department had also lost some staff members in key positions due to transfers and promotions at the time of the Groen Sebenza (Phase 1). In an effort to build the capacity in key strategic positions within the department and in line with the ESSP (DEA, 2010), the departmental workplace skills plan as well as the impetus for green job creation, various job initiatives were conceptualised and implemented with the long term goal of employing skilled youth from the province in the Environmental Sector. These initiatives included learnerships and internships of which Groen Sebenza was a key initiative in response to this (DENC, 2013/14, p. 30).

As indicated in Chapter 1, and above, the Groen Sebenza programmes sought to introduce a pro-active and innovative approach to capacity building in the environment sector. Orr (2004, p. 6-14) talks of education that ‘is not widely regarded as a problem, although the lack of it is’. He calls for a rethinking of education, measured against the agenda of human survival. He then goes on to suggest that the way in which learning occurs is as important as the content of particular courses or programmes, and that process is important for learning, a point that was

also made in the ESSP, where an argument was made for adopting a pro-active and ‘futures thinking approach’ to skills development in the environmental sector (DEA, 2010).

2.3 The Wider Context: Green Economy and Green Jobs

As introduced in Chapter 1, the Groen Sebenza programme also responded to the need for job creation, and was located in a national programme to create jobs via the DBSA funded jobs-fund within a green economy orientation. Understanding the green economy is therefore also an important contextual dynamic influencing the Groen Sebenza programme. According to Kaggwa, Mutanga, Nhamo and Simelane (2013), green economies are a “new policy wave” emerging mainly in international policy discourse following the 2008 global economic crisis. Here, “In their quest to re-invigorate economic growth, global leaders decided to address the financial crisis along with other crises that acted as drivers of the global green economy transition, including energy and climate change”. They define green economy being centrally defined by “the desire to improve people’s lives by combating climate change, energy insecurity and ecological instability.”(ibid, p. 5).

In line with this definition, the green economy in South Africa is viewed as,

... a path to sustainable development based on its potential to address the interdependence among inclusive economic growth, social protection and natural ecosystems. It is defined as a ‘system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well-being over the long term, while not exposing future generations to significant environmental risks or ecological scarcities’. (Kaggwa et al., 2013, p. 5).

Kaggwa et al., (2013) comment further that “The green economy phenomenon has been growing exponentially since its re-discovery in 2008 following the global financial crisis.” (p. 5).

Nhamo and Nhamo (2013, pp 115-142) contend that the literature is “awash with recent writings on the subject matter (see for example, Bartelmus, 2013; Fankhauser, 2013; Nhamo, 2013; MacLennan and Perch, 2012; UNECA, 2012; UNEP, 2011; Low, 2011)”, with Low (2011) maintaining that this signals a re-thinking of development trajectories. Amongst the

concerns driving the emergence of the green economy are climate change, energy and water security, biodiversity loss and intergenerational environmental degradation.

Nhamo and Nhamo (2013, p. 115-142), contend that in the Southern African Development Community (SADC), which is affected by poverty, there is an urgent need to be "... informed by the high level global transition aimed at converting the negative environmental, social and economic crises into tangible, equitable and inclusive opportunities for jobs creation and natural capital conservation." A New Global Green Deal was introduced by the UN Environment Programme in 2009 (UNEP, 2009), encouraging governments to support economic transformation to greener economies in ways that create green jobs and promote sustainable and inclusive growth, amongst other development objectives. In November 2011, South Africa adopted the Green Economy Accord (DEA, 2011), with an emphasis on green jobs and green skills development. The Green Economy Accord, in 2011 was described as "one of the most comprehensive social pacts on green jobs in the world", and was established to "build a partnership to create 300 000 new jobs by 2020, in economic activities as diverse as energy generation, manufacturing of products that reduce carbon emissions, farming activities to provide feedstock for biofuels, soil and environmental management and eco-tourism" (<https://www.gov.za/south-africas-green-economy-accord#>)

In 2010 the International Labour Organisation conducted a green skills review in South Africa, noting a significant mis-match between environmental policy and skills development, affecting the plans for green jobs development, especially also from a transformative perspective as also pointed out in the Biodiversity Human Capital Development Strategy (SANBI/Lewis, 2010) and the ESSP (DEA, 2010).

The above developments need to be contextualised within the 2012 South African National Development Plan (NDP), developed by the National Planning Commission "as a road map to deliver public services efficiently up to 2030, in particular water, electricity, sanitation, jobs, housing, public transport, adequate nutrition, education, social protection, quality healthcare, recreation and a clean environment" (NPC, 2012; Nhamo & Nhamo, 2013, p. 115-142). The NDP outlines interventions that address South Africa's agenda for a greener economy transition.

Green Jobs are defined by the UNEP (2008, p. 3) as:

Work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials, and water consumption through high efficiency strategies; de-carbonize the economy; and minimize or altogether avoid generation of all forms of waste and pollution.

The ILO (International Labour Organisation) also offers further elaboration on the concept of green jobs when they state that,

In the promotion of sustainable development, the quantity and quality of jobs represent both an objective and an essential ingredient. While in the shift to a greener economy employment net gains have proved to be possible, it is also becoming evident that the goal of environmentally sustainable and social inclusive economies cannot be achieved without the proactive contribution of the world of work. This is why the ILO, through the promotion of green jobs, emphasizes the central role of employment and the workplaces as the locus for a better integration between the three dimensions of sustainable development. (UNEP et al., 2008, p 39).

Both UNEP and the ILO agree that “Jobs are understood as ‘green’ when they help reduce negative environmental impact, ultimately leading to environmentally, economically and socially sustainable enterprises and economies” (ibid). Like UNEP, the ILO stresses that green jobs are also decent jobs that should provide workers with adequate incomes, social protection and at the same time, ensure the respect for the rights of workers. In terms of application areas, there is agreement that decent green jobs are needed to improve energy and raw materials efficiency, limit greenhouse gas emissions, minimize waste and pollution, and particularly relevant to the Groen Sebenza programme under study in this thesis, is the application areas of protection and restoration of ecosystems (biodiversity) and supporting adaptations to the impacts and effects of climate change.

The Groen Sebenza programme is also aligned with the Sustainable Development Goals (SDGs) and the United Nations Education, Science and Cultural Organisation (UNESCO)

Education for Sustainable Development (ESD) Global Action Programme (GAP), which has since been updated to an ESD for 2030 Agenda (recently released at the end of 2020).

Two of the SDG's or Global goals are particularly relevant to the implementation of the Groen Sebenza programme namely Goal 8, which aims at ensuring decent work and economic growth while also giving attention to sustainable development issues. One of its targets, which is relevant to this study, is the target to by 2030 to substantially reduce the proportion of youth not in employment, education or training. The Groen Sebenza programme emphasis on a learning-centred approach to decent work creation is relevant to Goal 4, which focusses on quality education, and especially the targets that seek to integrate education for sustainable development into all types of education, including workplace education, and the target that seeks to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

In terms of the UNESCO ESD Global Action Plan and the more recent ESD for 2030 Agenda, the key priority area in this policy framework that speaks to Groen Sebenza is the priority action area 4, which focusses on 'Empowering and mobilizing youth' and it states that 'young people have the potential and motivation to drive the sustainable development movement...' (<https://en.unesco.org/gap/priority-action-areas>). Along the same lines, the ESD for 2030 Agenda states that,

For Priority Action Area 4 on youth, the focus will be to provide opportunities for young people's engagement. Young people must be recognized as one of the key actors in addressing sustainability challenges and be mobilized on key decision-making processes concerning sustainable development. Creative and innovative minds are among their strengths, and activities for young people should tap into these. Trends among youth related to their behavioural patterns and values need to be monitored closely to identify the best way to tap their strengths. (UNESCO, 2019)

It makes sense for us as researchers in the field of green skills and environmental education research to locate our research in the emerging debates and in so doing, assist society to make sense of living sustainably on this earth. As the Director-General of UNESCO, Irina Bokova (2015) stated in her address that launched the Education 2030 Incheon Declaration,

... it reflects our determination to ensure that all children and young people gain the knowledge and skills they need to live in dignity, to reach their potential and contribute to their societies as responsible global citizens. It encourages governments to provide learning opportunities through life, so that people can continue to grow and develop. It affirms that education is the key to global peace and sustainable development.” (UNESCO, 2016, p.12).

2.4 The wider context: A focus on youth and youth employment creation

The Youth Statement at the UNESCO’s Education for Sustainable Development Youth Conference in 2014 highlighted a few relevant recommendations from youth for advancing ESD beyond 2014 in line with the Global Action Programme on Education for Sustainable Development which can be responded to in the biodiversity sector and in programmes such as Groen Sebenza. These are that sustainability challenges and opportunities can,

- a. “Enable youth to understand and critically appreciate the complexities and uncertainties of sustainability challenges and opportunities
- b. Empower the youth to develop visions of more sustainable futures.
- c. Equip students with the competencies to transform their personal lives, educational institutions, communities and countries” (UNESCO, 2014, p. 6).

Relevant to the focus on a whole institution focus to green skills development in this study, are the youth recommendations related to whole institution approaches for which they indicate,

- a. “Educational institutions and governments should provide the institutional support, resources and legitimacy for youth-led change processes towards sustainability,
- b. Enhance collective action among sustainability initiatives, and
- c. Recognise youth as equal partners to accelerate the operational transformation of educational institutions towards sustainability” UNESCO (2014, p. 5).

Young leaders in ESD can be inspirational role models for encouraging other youth who share similar concerns in their local contexts (ibid). This can be achieved through peer mentoring, sharing of knowledge and skills, and fostering open and safe platforms for expression and action in their communities and beyond, as was shown by some of the case examples of youth

engagement and skills development during the UN Decade on Education for Sustainable Development (UNESCO, 2014). The Groen Sebenza programme lends itself to achieving these recommendations as the platforms or forums exist for the Pioneers in the programme to be engaged in this way in whole institution settings. This implies that there is need for communities of practice that can support the collaborative learning of youth in the organisations. This, as discussed in Chapter 1, was one of the key intentions of the Groen Sebenza's incubator model which adopted a social learning orientation. I therefore now turn towards developing a deeper theoretical understanding of the tenets of this model.

2.5 Theoretical framework: Communities of Practice as a situated social learning theory

In moving towards answering the study's research question, and to better understand and interpret the tenets of the Groen Sebenza incubator model and the creation of smaller communities of practice involving pioneers and mentors in the host institutions as described in brief in Chapter 1, and above as an innovative approach to green skills development and environmental education, I will draw on Lave and Wenger's (1991) theory of situated learning: especially their focus on legitimate peripheral participation in communities of practice, as this accords with the assumptions of how the Groen Sebenza pioneers were to learn to take up viable jobs in the participating biodiversity institutions.

I will use Wenger's work to reflect on the learning interactions and knowledge practices within the Groen Sebenza Programme and in particular focus on key dynamics of communities of practice, namely *learning*, *meaning* and *identity* (Wenger, 1998) and communities of practice and social learning systems (Wenger, 2000). Wenger (1998) talks of "learning as social participation". Wenger (*ibid*) refers to participation not just as "local events of engagement in certain activities with certain people, but to more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities" (p 4). Wenger (*ibid*) contends that participating in communities of practice is "essential to our learning" and that it is at the "very core of what makes us human beings capable of meaningful knowing". He further states that communities of practice are the "basic building blocks of a social learning system because they are the social 'containers' of the competences that make up such a system" (Wenger, 1998, p 225). He says further that if we participate in these communities, we define with each other what constitutes competence in a given context (*ibid*) e.g. being a reliable doctor or in as in the case of the process I am writing

about – a good and effective mentor. According to Wenger (1998) communities of practice define competence by combining three elements:

1. *What is it about* - members are bound together by their collectively developed understanding of what their community is about and they hold each other accountable to this sense of enterprise;
2. *How it functions* - members build their community through mutual engagement – interacting with one another;
3. *What capability it has produced* - community of practice have a shared repertoire of communal resources – language, tools, stories, routines, etc. that they have developed over time.

Social learning is often referred to as a way of organising individuals, organisations, communities and networks, that is particularly fruitful in creating a more reflexive, resilient, flexible, adaptive and indeed, ultimately, a more sustainable world (Keen, Brown & Dyball, 2005; Wals, 2007). Wals (2007) sees social learning as enabling us to reflexively create a more sustainable world together via co-engaged learning processes.

Wenger (1998) sees a social theory of learning integrating the “components necessary to characterise social participation as a process of learning and of knowing.” The components include the community, practice, meaning and identity which relate to learning as belonging, learning as doing, learning as experience and learning and becoming, as shown in Figure 2.2 below.



Figure 2.2. Components of a social theory of learning (Wenger, 1998)

As stated in Wenger (1998, p. 5),

1. *Meaning*: as a way of talking about our (changing) ability – individually and collectively – to experience our life and the world as meaningful.
2. *Practice*: a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action.
3. *Community*: a way of talking about the social configurations in which our enterprises are defined as worth pursuing and our participation is recognisable as competence.
4. *Identity*: a way of talking about how learning changes who we are and creates personal histories of becoming in the context of our communities.

This “initial inventory” as Wenger puts it or situated social learning model as I refer to it, can be potentially helpful to describe and analyse the participation experienced and recorded by pioneers and mentors in the learning interactions and practices of a community of practice in a Host Institution within the Groen Sebenza programme, as they,

1. *Make meaning and learn together* as a collective and as individuals, understanding the programme and their roles as participants (pioneers, mentors, coordinators etc.) better, through the sharing of experiences and stories within their respective contexts.
2. *Learn by doing* via which participants, especially the pioneers, can have access through participation in contributing to practices to social and historical resources, frameworks and other perspectives that can benefit them in the long run and sustain and enhance their practice.
3. *Learn together to develop a sense of belonging* via coming to belong to a social group or structure in the host institution or workplace that has a lot in common and through participation in this setting become recognised for their competence. As indicated in Chapter 1 and above, the Groen Sebenza programme has clear and specific goals with a major one being that mentors have to prepare and mentor pioneers to become job-ready and ultimately able to be appointed in permanent jobs in the environment sector.
4. *Develop identities as professionals in biodiversity workplaces and the biodiversity and environmental sector more broadly*. Communities of practice defines a way of talking about how *learning affects and changes who we are* and progression of learning and participation in practices over time in workplaces and organisations can assist in enabling pioneers and mentors to create new *identities* for themselves.

In a community of practice, learning is at the centre of all these components or elements that are also “deeply connected and mutually defining” (Wenger, 1998, p. 5). In the context of this study, the community of practice consists of 10 pioneers (interns), their six mentors, the coordinator of the programme within the Host Institution (NCEC) and the other members of the implementation team who supported, nurtured, provided funding, and leadership to the pioneers and mentors, such as administrative staff, human resources and finance representatives as well as senior management representatives based within the provincial government department, which as mentioned above, is the host institution that is in focus in this study (see Figure 2.3 below).

The situated learning theory of Lave and Wenger (1991) which gave rise to communities of practice theory above as articulated by Wenger (1998, 2000), provides perspective on how newcomers learn and shape their identity (i.e. ways of belonging) as they get inducted, empowered and change in the community of practice in workplaces. These theorists argue that it is not only the individuals who shape their identity but also the practice and participation in their community of practice. Wenger (1998) in later work, mentions three inter-related properties that characterise the community of practice:

- (a) *domain* – shared interest of the group – it defines the identity of the community, its place in the world
- (b) *community* – individuals involved – those engaged in the activities, learn together, share information and build relationships
- (c) *practice* – sharing a repertoire (Floding & Swier, 2012; Wenger, 1998).

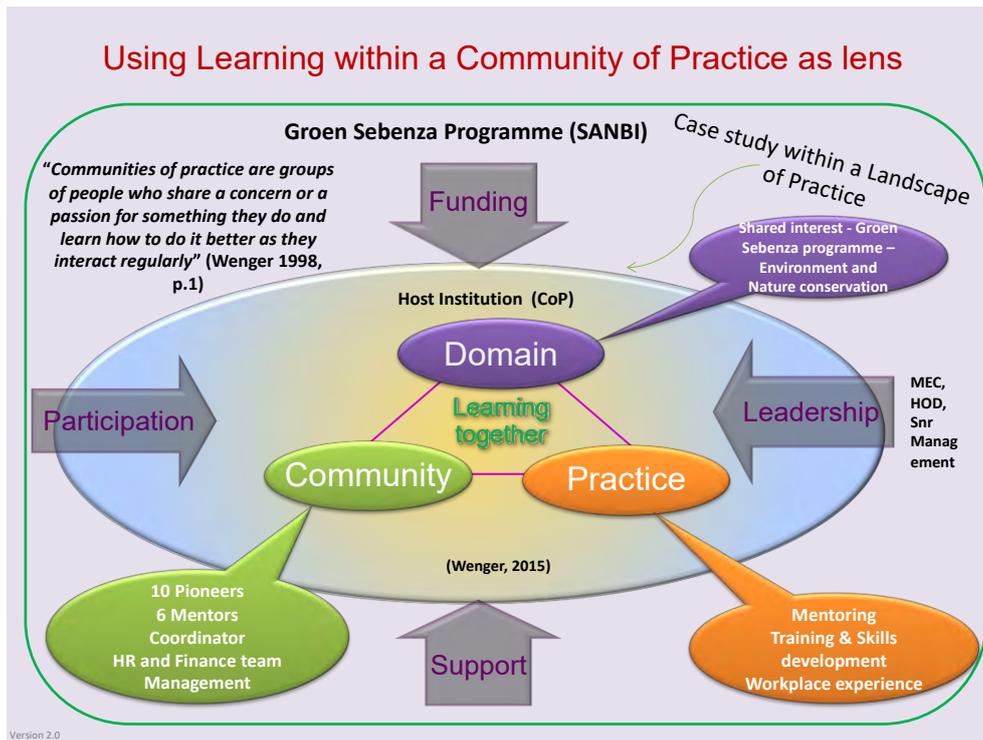


Figure 2.3 The Community of Practice model as applied to this study, indicating the domain, community and practice directly involved in learning together, as well as those that supported them and the broader Groen Sebenza context (adapted from Wenger, 1998, 2015).

Figure 2.3 above introduces a simple, basic model for communities of practice as the cornerstone of a social learning process. It contains seven basic elements, that were also in focus in the development of understandings of the social learning of the pioneers and mentors in the NCEC host institution case study within the wider Groen Sebenza landscape.

The three central elements shared domain, practice, and community are definitional of communities of practice and social learning; they define what we are about, how we form a community and who should be part of it, and what is the practice that we need to get better at (Wenger, 1998). These three elements are mutually defining and work as a set. Applied to the Groen Sebenza programme and the pioneers and mentors in the host institution, offers the following framework for observing the community of practice and its emergence as a social learning programme and unit of analysis:

- **The Domain:** Indicates the shared interest which in the case of this research is the implementation of the Groen Sebenza Programme and the creation of successful job

practices and biodiversity careers for the pioneers in the host institutions. Within the domain is a commitment to Groen Sebenza and biodiversity human capacity development.

- **The Community:** In the case of the Groen Sebenza host institution, this would primarily be the 10 pioneers and their six mentors and the programme co-ordinator and other immediately involved staff especially the human resources and finance divisions in the host institution. In the programme intentions and the incubator concept is an implicit assumption that these members of the community will grow together, by helping each other, sharing information and building relationships that will facilitate the learning and integration of the pioneers into the host institution.
- **The Practice:** In the case of the Groen Sebenza host institution context, the practice in focus would be mentoring, training and gaining relevant work experience. The practitioners would be the pioneers and mentors, and the practice would need to be aligned with the mandate and objectives of the host institution which is biodiversity conservation and management. The various learning interactions within the CoP would be centred around this practice.

The four arrows in Figure 2.3 refer to four distinct perspectives of constituencies for whom this social learning process is important, and thus also the supportive role that they play in facilitating the emergence of a community of practice (Wenger, 2015).

The first horizontal pair of perspective arrows namely ‘Participation’ is within the circle of the community of practice. It gives attention to the motive and reasons for participation, and helps participants in the community of practice to clarify the “what’s in it for me,” which is important for shaping the learning imperative of members of the community of practice, and is the foundation of the social energy of a community of practice. Participation for the pioneers means upskilling, workplace learning and mentoring – capacity development. For the organization it means ‘more hands-on deck’ to deliver on the mandate, being able to contribute to national imperatives around job creation and skills development.

Having members who are ready to go the extra mile to support and nurture the community of practice is equally a key success factor, hence the vertical arrow ‘Support’ in Figure 2.3. In the case of the Groen Sebenza programme, support was provided internally by the management

system that supported the mentors, and the appointment of the pioneers, giving them time to work together and so on. Support was also defined externally by SANBI Groen Sebenza in the form of funding and operational support, political support (from the MEC and HOD in the province) as well as the support of the national minister of DEA, and via mentoring guidelines for mentors, and training for pioneers and mentors, as well as support for monitoring and evaluation as described in Chapter 1.

Sponsorship/funding and support need not be, and usually are not, performed by members of a community of practice although this could be done by them. In the case of the Groen Sebenza programme pioneers and mentors were not required to fundraise for their own salaries in the community of practice. Funding was provided by Groen Sebenza SANBI via the National Treasury's arrangement with the DBSA and the Jobs Fund. The institution, however, contributed financially in various other ways to enrich the programme, e.g. via resources needed for workplace practices, staff capacity, office space, additional training and so on, as will be described in subsequent chapters of the study (cf. Chapters 4, 5 and 6).

Leadership and leadership support is also important to a community of practice, within the organization/institution as well as external leadership. In the case of the host institution, leadership from senior management, the provincial Head of Department and Ministers responsible for the NCEC were importantly supportive of the Groen Sebenza programme. Leadership was also provided by SANBI as the implementing agent as also pointed to in Chapter 1. These dimensions will also be discussed in more detail in subsequent chapters of the study (cf. Chapters 4, 5, 6).

Wenger (2015) and Wenger (1998) note that these seven elements also indicate what to pay attention to when attempting to cultivate communities of practice, in other words when new communities of practice are being supported into development as was the case in the Groen Sebenza programme. They are developmental elements. In summary, they address the following questions typical of a social learning process:

- What is the partnership about?
- Who should be at the table?
- What should they do together?
- How are they going to benefit?
- Who will take leadership?

- Who are the external stakeholders?
- Where are resources for support?

As can be seen from the discussion above, this theory is appropriate for the internship green skills development study in the Groen Sebenza programme as its intention is to induct new recruits into various workplaces where they will be involved in a range of biodiversity practices (e.g. wetland management, ecosystem assessment, GIS, conservation management, environmental education etc.).

The theory by Lave and Wenger (1991) and Wenger's (1998; 2015; 2000) explanations of community of practice and how to support and cultivate communities of practice have been used in organisations for both individual and organisational development. I will employ this theoretical work in this study because it is concerned with the following, all of which are relevant to this study focus:

- Most importantly to this study, the practice is viewed from the perspective of the newcomer / pioneer to a practice (Lave & Wenger, 1991);
- It attempts to understand the newcomer's experiences and learning within their context and situation and how they become part of the community of practice (ibid);
- It is stated that within the community of practice, participation of members varies, hence there are central (experienced members) and peripheral members (i.e. newcomers/novices) who are brought together by a common activity or shared practice or domain of interest and are "willing" to pursue it, and in which newcomers learn through gradual induction into the process via a process of 'legitimate peripheral participation' which changes over time to become more experienced participation in the practice (ibid).
- "Effective participation requires continuous evaluation of needs, interests, concerns and expectations" (Floding & Swier, 2012, p.193) for the newcomer to actually learn to do the practice. And according to Lave and Wenger (1991) it is important that members should have access to both social and physical resources to participate;
- "The tasks given to members are usually simple at the periphery, but as they get motivated the degree of competence and confidence increases, the tasks then become more complex as they move to the centre" (McManus & Feinstein, 2008, p. 35);

- Newcomers learn from the following activities: “by observing the central members, by interacting with other newcomers and central members; copying from central members, participating in activities of the community of practice; produce and reproduce what they have learned. Also, newcomers do not only learn from the community of practice they are situated but they also learn from people outside of their community of practice (e.g. from training programmes)” (ibid);
- They do not only learn job skills from central members but also how the central members conduct their lives (ibid);
- Learning is dynamic and continuous (and it is inseparable from social practices) from ‘active’ participation in daily life activities and in social settings (Smith, 2003, 2009; Francois & Quek, 2011);
- Mentors and pioneers “self-evaluate and reflect on their behaviours, so that each may grow towards competencies required within a community of practice” (Floding & Swier, 2012, p. 193);
- Furthermore, they perceive learning beyond the internalised acquisition of knowledge and ability to solve a problem. They also perceived learning as a process of increased social participation (i.e. relationships between people) which gives an individual an identity or a meaning, and ultimately brings behavioural change and better performance (Smith, 2003, 2009). Lave and Wenger (1991, p. 109) also stated that “the purpose is not to learn from talk as a substitute for legitimate peripheral participation; it is to learn to talk as a key to legitimate peripheral participation”.
- Last but not least, it is concerned about the social engagements within the community of practice that “gives a proper context for learning to take place” (Lave & Wenger, 1991, p. 14).

In my research I intend to investigate the key elements of the theory separately: Legitimate Peripheral Participation in communities of practice, according to the level of participation in the practice, are observable via giving attention to:

- (a) the newcomer/pioneer,
- (b) ‘central’ community of practitioners because they pursue similar interests and goals, and they employ
- (c) common or shared practices and domain of practice.

Recognising these elements and examining them separately does not mean that the elements are not related. They are interconnected and they equally provide insight into the historical and social context of the community of practice “that give structure and meaning” (Wenger, 1998). The purpose of separating the elements is to see the kind of knowledge produced, whether explicit or tacit, that will be useful for the reflection of training assumptions and practice in the community of practice in general and may be useful for informing future intervention. I elaborate briefly on these below:

a) Newcomer or Pioneer

According to Lave and Wenger (1991, p. 36), a newcomer is an “individual at the periphery of the participation in the community of practice”. The peripheral individual, like the Groen Sebenza ‘pioneer’, is a newcomer who still needs to identify himself/herself within the community of practice, develop interest, become accustomed to, or acclimatise with the culture and activities of the workplace, produce and reproduce what it is learned, ‘become’ competent in an occupation, and become innovative, in order to be an active and full participant. By the use of the term ‘become’, I mean ‘being or living the practice’ (ibid). This cannot be achieved by the newcomer alone but requires support from other participants of the community of practice, and/or the sector as in the intended Groen Sebenza training plan and overall objectives, and most importantly the newcomer needs enabling conditions to develop from peripheral to full participation. Since the Groen Sebenza programme’s closest connection to the pioneers was via the Groen Sebenza training programme offered across the host institutions, this study will mostly focus on training-related factors and processes that can help to create enabling conditions for the newcomer/pioneer to participate more fully in their workplace community of practice as offered by Groen Sebenza, but also via mentoring of the pioneers by mentors in the workplace.

b) Practice

Practice focusses on what newcomers/pioneers do and what they learn in order to benefit from the practice. There is a difference between how people do the actual job and how the job is described and assumed to be (Brown & Duguid, 1991). Wenger (1998, p. 47) says “The concept of practice implies doing, but not just doing in and of itself. It is doing in a historical and social context that gives structure and meaning to what we do.” Practice can be explicit and tacit. Experience of practice for the pioneers (interns) implies being in contact with the environment, thus it should be real.

c) Community of practitioners

This would involve examining who is and should be involved in the mentoring and training of the Groen Sebenza pioneers as they experience mentoring, training, and as they apply training to the workplace in their communities of practice.

2.6 Social Learning Value Creation in Communities of Practice

In addition, in this study I will also apply a **Value Creation Framework** (VCF) created by Wenger, Trayner and De Laat (2011) for assessing the value creation in a Community of Practice (CoP). In '*Promoting and Assessing Value Creation in Communities and Networks: A Conceptual Framework*', Wenger et al. (2011) proposed a framework for assessing the value created for and by individuals who participate in a CoP (Cowan & Menchaca, 2014, p. 43-74).

The goals of my research (see Chapter 1) justify why I would like to use this framework as an evaluative framework to analyse the data that will be generated in the study. Wenger et al (2011), explain that by value creation they mean "the value of the learning enabled by community involvement and networking". Therefore, they focus on

the value that networks or communities create when they are used for social learning activities such as sharing information, tips and documents, learning from each other's experience, helping each other with challenges, creating knowledge together, keeping up with the field, stimulating change and offering new types of professional development opportunities (ibid, p. 43).

The Value Creation Framework affords a framework for assessment of value creation in five cycles. Value creation in these cycles (see Figure 2.4 below) according to Wenger et al. (2011),

range from simple value created in a single cycle such as simple connections between members of a CoP, to complex value creation that occurs across multiple cycles and leads to value creation that enables CoP members to enter leadership roles such as defining or redefining an organisation's missions, goals and definitions for success.

In addition, the study of value creation in these cycles over time can lead to the development of “cases, techniques, tools, stories, concepts, and perspectives” that, in a finalized state take the form of “value creation stories” (Wenger et al., 2011, p. 10).

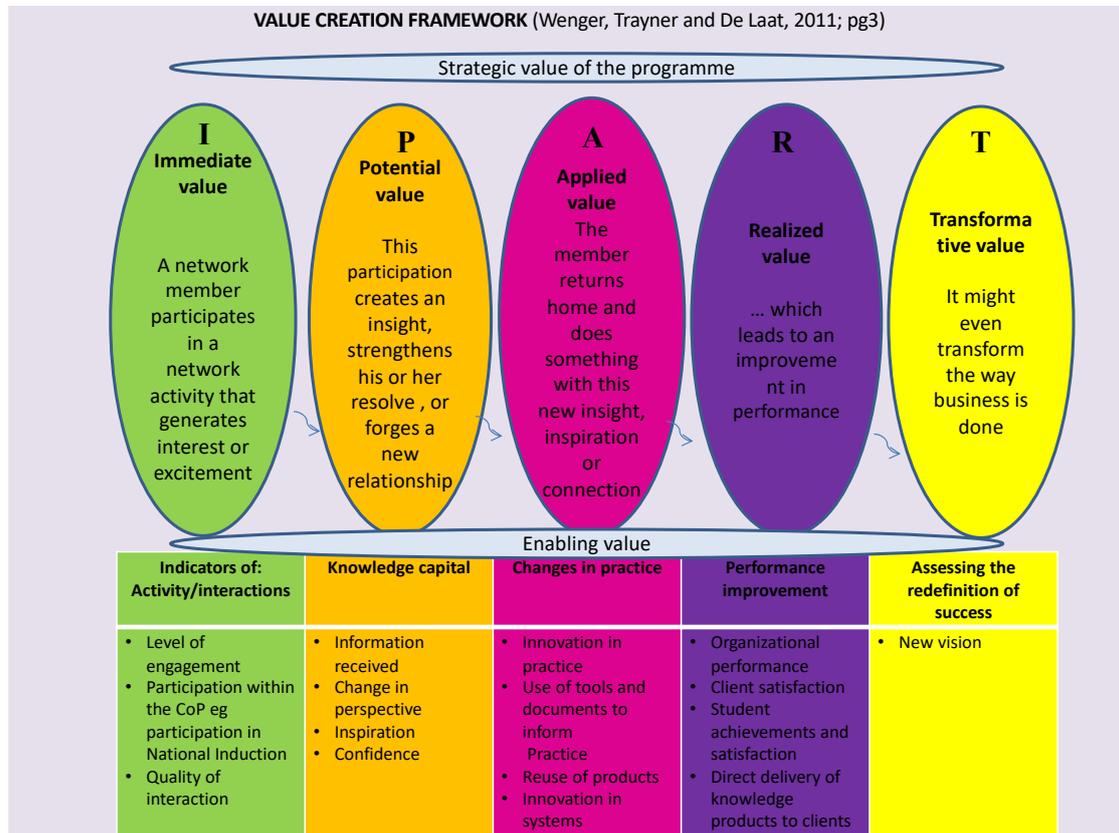


Figure 2.4: Framework for evaluating value created from social learning in networks (adapted from Wenger et al., 2011, p. 3)

The value creation framework proposes an “underlying theory of change for how social learning in networks” or communities of practice such as this Groen Sebenza programme within a host institution like the Provincial Department, can “make a difference in the world” (World Bank, 2014, p. 3).

In this study I will attempt to show that *mentoring* played an important role in the overall value creation in the community of practice. Buhlungu and Metcalfe (2001, p. 78) defines mentoring as follows (which resonates strongly with my view of mentoring): “It is an *interactive relationship* and a set of processes where the inventive and *experienced person offers help, guidance, advice and support* willingly to facilitate the learning or development of a newcomer

at the same time *transferring skills and knowledge* to the newcomer in order to *enhance his/her development*". Drawing on this definition, mentorship then plays a vital function in the professional development of the newcomers/incubants/pioneers more especially if the intention is to ensure that the newcomers/incubants/pioneers gain access and fully participate in the inner circle of corporate leadership and management in the environmental sector so as to truly bring sector transformation into effect [as the HSRC report of 2009 advocated]. This implies that the mentorship approach should not be like some contemporary approaches whereby:

Institutions regard interns as nothing more than research or student assistants ... where there are no specific procedures that outline issues such as development of the intern, assessment of the intern's training, promotion, ownership of knowledge [or project] ... where mentors assume no responsibility for mentoring and guiding the development of the interns. (Buhlungu & Metcalfe, 2001, p. 75)

In order to appreciate the richness of the value created by communities and networks, it is useful to think about it in terms of different cycles as briefly defined below by Wenger et al. (2011, p. 19-21):

Cycle 1. Immediate value: Activities and interactions

"The most basic cycle of value creation considers networking/community activities and interactions as having value in and of themselves.

- For communities, this includes activities such as helping a member with a difficult case during a meeting, a useful conversation online, a good tip provided by a colleague, a story about something that went wrong, a visit to another location, or conducting a small research project.
- For networking, this cycle includes meeting someone, getting an address, connecting, asking a question of the network, passing a piece of information along, or giving input".

In the case of Groen Sebenza this could be the activities related to training, mentoring, workplace experience, induction, etc.

Cycle 2. Potential value: Knowledge capital

“Not all the value produced by a community or a network is immediately realized. Activities and interactions can produce “knowledge capital” whose value lies in its potential to be realized later. ... Activities and interactions can produce value in and of themselves.... Participants can cooperate on seeking innovative approaches. Just hearing someone else’s story can open one’s imagination or reveal a new perspective. And being with others who understand one’s challenge can be a relief.”

As will be highlighted in the presentation of data, there are many examples of how knowledge capital is developed in the various activities, interactions and engagements between pioneers and mentors in this case study.

Cycle 3. Applied value: Changes in practice

“Knowledge capital is a potential value, which may or may not be put into use. Leveraging capital requires adapting and applying it to a specific situation. For instance, ... [relevant to the Groen Sebenza context] ... changing a procedure, implementing an idea, trying a suggestion, enlisting members of one’s network Adapting and applying knowledge capital in different contexts can lead to changes or innovations in actions, practice, tools, approaches, or organizational development ... Looking at applied value means identifying the ways practice has changed in the process of leveraging knowledge capital.”

Cycle 4. Realized value: Performance improvement

“New practices or tools are not enough, even when applied. One would expect the application of new ideas to practice or the use of resources from the community/network to result in improvements in performance, but this is not guaranteed. It is therefore important not to simply assume that improved performance is the case when people change their practice, but to reflect on what effects the application of knowledge capital is having on the achievement of what matters to stakeholders including members who apply a new practice.”

Cycle 5. Reframing value or Transformative value: Redefining success

“The last cycle of value creation is achieved when social learning causes a reconsideration of the learning imperatives and the criteria by which success is defined.

This includes reframing strategies, goals, as well as values. It can also include proposing new metrics for performance that reflect the new definition of success. This redefinition of success can happen at individual, collective, and organizational levels ... It may also mean transforming or leaving behind the existing structure and using this new definition of success to create a new framework” (ibid).

Cowan and Menchaca (2014, p. 43-74) highlight some limitations to the Value Creation Framework - when value is not created. They contend that a potential weakness of the Value Creation Framework is that it, “by design, leads to a focus on the positive. It is designed to look for value created. This could lead to an oversimplification of what is, in reality, an extremely complex endeavour. Every choice made in the design and development of a CoP opens certain paths forward, while closing off others.” In this study I will work with the above descriptions of value to help me to analyse data from the Groen Sebenza implementation programme in the host institution, and will also bear in mind the caveat of Cowan and Menchaca noted above.

2.7 Realist social theory as underlabourer

The case study is also underpinned and supported by Social Realism. Social realism has developed out of critical realism and research in social realism looks at causal processes within social phenomena. Structure (the parts) has causal powers and emergent properties, and people, have causal powers and properties (Carter & New, 2004; Archer, 1995). The human agent’s actions- what we are and what we do is shaped by the society we live in (Archer, 1995, p.1). Archer states that human agents (pioneers and mentors in this case study) are influenced by their structural situations, but this is not determined as both structure and agency hold their own properties and powers (Carter & New, 2004).

Archer’s realist social theory, which developed out of critical realism as an ontologically located theory of how and why social change occurs, takes account of socio-cultural interaction, structural interaction, and the formation of new knowledge and practice. Social realists believe that the agency of people is influenced by the properties and powers of social structures and cultural systems (together known simply as structures or ‘parts’ as Archer calls them) within their context; but through interaction with these structures, people can also develop the personal and collective relational properties and powers to change them (Archer, 1995). In this way social realists believe that although society shapes the agency of people,

people can in turn develop the agency to act on and change society. Thus human action is conditioned, but not determined by pre-existing social structures.

Archer holds that (using a methodological approach of analytical dualism) that structure and agency are separable by definition because of these properties and powers that are unique to each of them, and their emergence from each other justifies their differentiation. Therefore, understanding the interplay between them both becomes vital (Archer, 1995). She suggests: “explanation[s] of why things social are so and not otherwise depends on an account of how the properties and powers of the ‘people’ causally intertwine with those of the ‘parts’ over time (T1-4)” (ibid, p. 15). Archer strongly believes that despite the independence of individuals, social structures and cultural systems, each possessing distinct properties and powers operating at the level of the Real, both social structures and cultural systems are the result of social relations that can only be elaborated through the agency of individuals. Archer is quite clear on this when she explains that “structural and cultural properties (SEPs and CEPs) only emerge through the activities of people (PEPs), and they are only causally efficacious through the activities of people” (Archer, 2000, p.307). She goes on to explain that structural and cultural emergent properties (SEPs and CEPs) emerge from a number of intended and unintended consequences, and that it is only when these properties have emerged, that they can exercise their powers of constraint and enablement by moulding the situations that people find themselves in, thus also influencing people’s emergent properties (PEPs).

Carter and New (2004) provide a good example of a property of social structures and cultural systems as being their anteriority; meaning they can exist prior to us being born into the world, such as the linguistic and legal systems that came before us. Another key property of these structures is that they are relatively enduring and long lasting. These properties then generate the powers of social structures and cultural systems to enable and constrain certain actions, over generations or even centuries. As an example of key properties of people (PEPs) that are relevant to agency, Carter and New cite reflexivity, self-consciousness, emotionality, and intentionality. These properties then allow people certain powers of agency. It is these causal powers which, Archer says, allow people to critically reflect on their social context, develop alternative solutions to it, learn and act reflexively to collaboratively transform it with other people, rather than being passive recipients of it (Archer, 2000). For this study, I will draw on these insights to identify SEPs, CEPs and PEPs that influence the integration of the pioneers

into their communities of practice in the host institution, in order to better understand how this process is influenced and takes place.

2.8 Conclusion

This Chapter has outlined the study design indicating how it was constituted as a case study drawing on interpretivism at the level of epistemology, and social realism at the level of ontological mechanisms influencing the experiences reported on by participants in the case study context. The chapter also outlined the inductive, abductive and retroductive modes of analysis, and the approach to the analysis, ethics and quality management of the study. The next chapter reports on the first phase of analysis.

CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines and describes the research design decisions made in this study. It describes the study's research orientation, the range of qualitative methods used to generate data (through semi-structured interviews, a focus group discussion, a questionnaire and document analysis), methods and tools used to analyse the data generated, and issues of research validity and ethical considerations.

As described in Chapter 2, this study was informed by a combination of theoretical and conceptual frameworks to understand the learning that took place in the community practice and how this together with the enabling and constraining factors contributed to the successful implementation and ultimate uptake of Pioneers into jobs within the Groen Sebenza programme, in this case study.

3.2 Research Design

This research used a qualitative case study approach that drew on inductive, abductive and retroductive modes of inference since I sought to explore an understanding of the practices and learning that occurred that contributed and led to the successful uptake of Pioneers into jobs, as well as the enabling and constraining factors. Nieuwenhuis (2007, p. 51) states that “qualitative research typically studies people or systems by interacting with and observing the participants in their natural environment (in situ) and focusing on their meanings and interpretations.”

3.2.1 Study site selection and participant selection

As introduced in Chapter 1 and 2, the research was conducted at a provincial government department whose mandate is Environmental Management and Nature Conservation in South Africa. It was one of the host institutions within the Groen Sebenza Programme. The participants in this research included ten pioneers, five mentors, the coordinator and three administrative support staff of the department. Initially I planned to have a focus group discussion with all ten Pioneers in the programme, but since the Pioneers were spread across

the vast province, I decided to focus on the three based at the head office in the capital city of the province, the site I visited to do most of my data collection. The third pioneer was not available due to a training course she attended and I could only conduct interviews with two of the pioneers on my site visit to the town where the head office is located. I conducted interviews with five mentors and had a focus group discussion with three administrative support staff who provided valuable information about their practices and experiences in the Groen Sebenza Community of Practice during the incubation programme. In addition, I also interviewed the current Director of Environmental Policy, Planning and Support, who coordinated the programme.

Initially the plan was to include the previous Chief Director: Biodiversity Management Services who represented senior management and could have provided insights into the strategic decision making and historical context, as well as the previous Director: Environmental Policy, Planning and Support and original Host Institution coordinator, who could have provided insights into the operational implementation and the overall implementation processes. However, both these people had resigned from the department and was not available to share their perspectives in an interview, unfortunately. I however managed to send a questionnaire to the ex-director and coordinator of the programme to complete in writing, but she did not respond. I was, however, able to use documentary records to access some of this information.

The programme was officially launched at a national level by the Minister of Environmental Affairs in June 2013 with the first cohort of pioneers appointed in May 2013. The programme was completed at the end of December 2015, when all 10 pioneers were taken up into jobs within the department.

The research therefore retrospectively examines the learning, meaning making and identity creation, as well as value creation elements and generative mechanisms associated with this community of practice. In terms of the latter (i.e. the generative mechanisms), I identify the cultural, personal and structural emergent properties from a social realist perspective, as introduced in Chapter 2.

3.2.3 *Qualitative Case Study*

I have chosen to adopt a case study approach for this research because I wanted to “provide an in-depth investigation of a social phenomenon in a given time and space” (Ragin & Becker, 1992) which is the implementation of the Groen Sebenza Programme by a host institution within the partnership, the Provincial Department of Environment, Nature and Conservation in one of the nine provinces in SA involving 10 pioneers (interns) as explained in Chapters 1 and 2.

Yin (1984, p. 23, cited in Shen, 2009, p. 22) identifies case study as an “empirical inquiry which investigates contemporary phenomena within a real life context, when the boundaries and context are not clearly apparent and various sources of evidence are utilized”. The study is therefore concerned with how the practices and interactions such as the training, mentoring, workplace experiences and other processes have contributed to the successful uptake of the pioneers into permanent jobs beyond the project by the host institution. To understand this complex relation, there is a need to give a thick description of participants’ “lived experiences” i.e. thoughts, feelings and doings – “real life context” (Cohen, Manion & Morrison, 2007, p. 254) in the programme which involved interviews with all stakeholders and focus group discussions. Darke et al. (1998) argue that case study allows for action to be understood *within* context.

Thus, a qualitative case study was appropriate since Baxter and Jack (2008, p. 554) posit that the use of multiple data sources is a “hallmark of case study research”.

3.2.4 *Interpretive case study with a social realist under-labouring*

The research orientation of this study is interpretive, under laboured by social realism (as explained in Chapter 2) because it is based on the assumption that it will highlight lessons learned within this landscape of practice which will inform future decisions about conceptualising design and implementation of future Human Capital Development programmes and Green skills policy. Terre Blanche, Painter and Durrheim (1999, p. 6) agree that “the interpretive approach is characterized by a particular ontology, epistemology and methodology”. Again they further explain that researchers working in the interpretive tradition accepts that people's deterministic experiences are real and should be taken seriously (ontology), that we can understand other's 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) (ibid). Under-labouring this approach with social realism meant that I undertook in-depth analysis of ontological dynamics in ways that lie beyond the interpretations of the study participants only, thus the study was interpretive at the level of epistemology, and social realist at the level of ontology.

Terre Blanche et al. (1999, p. 6) further elaborate that interpretive research "... relies on first-hand accounts, tries to describe what it sees in rich detail and presents its 'findings' in engaging and sometimes evocative language". Thus, at the epistemological level of the study I worked with an interpretative approach as I sought to understand the views of the pioneers, mentors and managers in the host institution, but I under-laboured this at an ontological level with social realist analysis to identify those underlying formative emergent properties that led to their experiences and views.

3.3 Data collection

3.3.1 Document analysis

In order for me, as the researcher, to understand the history and context of the Groen Sebenza programme, document analysis formed a key source of this process. Being the national programme manager of Groen Sebenza programme, I had access to most of the documents I intended to utilise in this research endeavour, which Irwin (2001) describes as "primary sources of information". Cohen and Manion (2004, p. 161) contend that "primary sources are documents that are original to the issue being researched and have direct physical relationships with the events being studied". Irwin (2001) highlights that working with primary sources also helps to provide contextual information which I agree is essential to establish meaning in qualitative research. He also highlights the fact that two crucial things to consider when using documents are their trustworthiness (authenticity) and accuracy (ibid). The key documents to consult included the project conceptual and application document, key policy and strategy documents, relevant Groen Sebenza programme documents related to training, mentoring, media and Groen Sebenza policy, quarterly and annual reports as well as performance assessments of the 10 pioneers. I used the Wenger frameworks (cf. Chapter 2) for analysis of documents to assist me to approach the volume of documentation with a clear purpose and focus. Documents were used mainly to compile Chapter 1.

3.3.2 Semi-structured interviews

Conducting an interview, according to Kelly (2006, p. 297), is “a more natural form of interacting with people”. Although interviewing may pose challenges because of human interaction between the interviewer and respondent, “a well-conducted interview can serve as a powerful tool for eliciting rich data on people’s views, attitudes and the meanings that underpin their lives and actions” (Gray, 2004, p. 213). I would have preferred to conduct semi-structured interviews with all the participants, but due to the vast area of the province and the geographic location of some of the key informants I targeted, I could only use semi-structured interviews with the head office based participants as my data collection method as mentioned above.

Semi-structured interviews, “where a schedule is prepared but is sufficiently open-ended for the contents to be re-ordered, digressions and expansions made, new avenues to be included, and further probing to be undertaken” (Cohen and Manion, 2004, p.146), enable participants to project their own ways of defining their world. Denzin, (1970) and Silverman (1993 as cited by Cohen et al., 2000, p.147) state that it also “enables participants to raise and pursue issues that might not have been included in a structured schedule”. I conducted semi-structured interviews with two pioneers (SIP1 and SIP2), five mentors (SIM1-5) and the coordinator (SIC1) of the programme within the department (see Appendix 1). These interviews were recorded and transcribed by the researcher.

3.3.3 Focus group discussion

Focus groups are “contrived settings, bringing together a specifically chosen sector of the population to discuss a particular given theme or topic, where the interaction with the group leads to data and outcomes” (Cohen et al., 2007, p. 376). “Participants interact with each other rather than with the interviewer, such that the views of the participants can emerge” (ibid).

Loubser (2005, p. 190) defines a focus group interview as “a moderated informal discussion among people ... who share a common interest in the topic being researched”. This step in the research process was an important one as it gathered a “collective view” (Cohen et al., 2007, p. 367), particularly amongst the group of finance and admin staff and the sharing of their experiences relative to the research questions. I conducted a focus group discussion with one representative from the Human Resources and two staff members from the Finance Division

that were closely involved with the programme. The participant from the Directorate's administration was unfortunately not available, due to traveling in the province.

The initial plan was to have two separate focus group discussions, one with the available Groen Sebenza pioneers (10) who participated in the programme and have been employed by the Provincial Department of Environment and Nature Conservation and a second one with the Host institution staff who participated, or who had a role to play in the implementation of the programme which included representatives from the Human Resources and Finance division. Unfortunately, due to distribution of the pioneers across the province, I decided to replace the focus group discussion with pioneers with semi-structured interviews for the two available pioneers.

3.3.4 Questionnaire

The questionnaire used was based on the interview schedule used in the semi-structured interview. Cohen and Manion (2000, p. 248) describe the semi-structured questionnaire as a “series of questions, statements or items [that] are presented and the respondent is asked to answer, respond to or comment on them in a way that she or he thinks best”. They further state that “there is a clear structure, sequence, focus, but the format is open-ended, enabling the respondent to respond in his/her own terms”. The questionnaire (Appendix 3) was sent via email to one respondent not available for the semi-structured interviews. Two of the eight pioneers responded to the questionnaire. I tried various ways, through emails and follow up telephone calls to get the responses from the rest of six pioneers but to no avail. In the end the data in these questionnaires were only used to verify some information related to training.

3.4 Data Management

As part of an audit trail to increase transparency and validity of the research process, I electronically stored all the data sets on my laptop computer, on an internet-based back-up system, OneDrive, as well as on two different external hard drives. The filing system on my laptop computer and OneDrive was identical and was organised in a clearly marked filing system with various folders for each of the important components of the research process. Ryan (2006) argues that this labelling and organising of all the data sets into relevant folders makes it easier for interpretation. Baxter and Jack (2008) add that this filing system, or database as they refer to it, enhances the reliability of the research and creates an archive for easy retrieval and logistical information. I opted for a manually configured database as opposed to one of

the digital software programmes, because I wanted to stay very close to my data sets and sources, since Baxter and Jack (2008) caution that digital software programmes can distance researchers from their data in the analysis process.

3.5 Data Analysis

Data analysis seeks to identify themes, patterns and relationships in order to present robust evidence for claims being made (Koshy, 2005, p. 109). According to Arthur et al., (2012, p. 301) "data analysis is the process of bringing order, structure and meaning to the mass of collected data". The analysis was theoretically informed, using lenses of and Wenger's Community of Practice and the Value Creation Framework (as well as Social Realism) as outlined in Chapter 2.

The data was analysed in two phases: (1) an inductive analysis phase of the raw data generated through the semi-structured interviews and focus group discussion; and (2) an inductive and abductive analysis phase of all the data generated throughout the rest of the study.

This first phase of analysis was conducted with the data generated from the semi-structured interviews and focus group discussion. I transcribed the audio-recordings taken at the five semi-structured interviews with mentors; the two semi-structured interviews with pioneers and the one focus group with admin and finance staff into separate transcripts (See Appendix 3 for an example of a transcription). The interviews varied in length as indicated in the interview schedule (Appendix 1). I thoroughly read and re-read the individual transcripts making initial notes to identify emerging broad, cohesive and dissonant themes, patterns and categories (Ryan, 2006) that related to the three research sub questions.

I used coding to categorise my data and thus sort the data (Maxwell, 2012; Cohen, et al., 2007). The data was placed in organizational categories to sort data for further analysis (Maxwell, 2012). I used colour coding to identify the four components of the social learning theory – community of practice as follows: pink for learning as doing (category 1), green for learning as experience (category 2), orange for learning as becoming (category 3) and purple for learning as belonging (category 4) within the transcript texts as shown in Table 3.1 below.

Table 3.1 Initial Abductive Coding of the Data

Category	Components	Colour code
Category 1	Learning as doing - Practice	pink
Category 2	Learning as experience – Meaning	green
Category 3	Learning as becoming -Identity	orange
Category 4	Learning as belonging - Community	purple
Emerging data	Enabling and constraining factors	yellow

I created a sheet for both mentors and pioneers and inserted the data under these categories which was used to do an abductive analysis of the data (see Appendix 9) for an example of an analytical memo showing the abductive analysis. I initially started with the first mentor transcript to colour code it according to these categories but found it too time consuming and then decided to do it directly in the electronic copy of the transcript document for both pioneers and mentors. I made summary notes at the end of each of the categories and this formed the basis of the narrative as I transferred the data into chapter 4. I printed out hard copies as well to make the process easier for myself.

Simultaneously I also highlighted in yellow, in the transcripts, the themes that emerged from the data that related to the enabling and constraining factors that contributed to the successful uptake of the pioneers within the institution as well as contributing factors that led to a conducive environment for learning in the workplace. These would lead to the inductive analysis in phase two in which I was able to identify the SEPs, PEPs and CEPs influencing the pioneers' uptake into the institution (which formed the basis of Chapter 5 analysis, see below).

For the value creation framework analysis, I also used colour coding to capture and organise the data under the five different categories as shown in Table 3.2 below, in separate sheets for pioneers and mentors (see Appendix 10 and 11 for Analytical Memos):

Table 3.2 Coding for abductive analysis of value creation

Category	Value	Colour code	Sub categories
Category 1	Immediate value	dark green	<ol style="list-style-type: none"> 1. Level of engagement (LoE) 2. Participation within the COP (P) 3. Quality of interaction (QoI)
Category 2	Potential value	orange	<ol style="list-style-type: none"> 1. Information received (IR) 2. Change in perspective (CiP) 3. Inspiration (I) 4. Confidence (C)
Category 3	Applied value	dark pink	<ol style="list-style-type: none"> 1. Innovation in practice (IP) 2. Use of tools and documents to inform practice (TDiP) 3. Reuse of products (RoP) 4. Innovation in systems (IS)
Category 4	Realized value	dark purple	<ol style="list-style-type: none"> 1. Organisational performance (OP) 2. Client satisfaction (CS) 3. Student achievements and satisfaction (SAS) 4. Direct delivery of knowledge products to clients. (DKP)
Category 5	Transformative value	yellow	<ol style="list-style-type: none"> 1. New vision (NV)

The next layer of analysis was to look at the sub categories for each of the categories as above. I printed out the sheets and used abbreviations for each of the sub categories to identify the data which relates to each sub category (See Appendix 9 and 10). This data was then summarised and transferred into the narrative of the text in Chapter 5.

As part of my inductive analysis, I developed separate sheets for mentors and pioneers that captured the evidence that highlighted the enablers and constraining factors that influenced, shaped and contributed to the uptake of the pioneers into sustainable green jobs at the host institution (see Appendix 12-13).

In a second phase of analysis, I developed separate analytic memo sheets for mentors and pioneers related to the enablers and constraints and these were summarised (See examples in Appendix 12-15). This information was further arranged and summarised into four different categories namely, Pioneers, Mentors, Relationship between mentors and pioneers, and Institutional environment. This sheet was printed out and lastly I did a further analysis of the different levels of social interaction as it relates to Cultural Emergent Properties (CEPs), Personal Emergent Properties (PEPs) and Structural Emergent Properties (SEPs) (See Appendix 16-19) and captured into the narrative text as part of Chapter 6 in summary format as it relates to answering the research questions.

In this phase I followed a three-step action plan during this second phase in the analytical process as suggested by Darke et al. (1998). Firstly, a process of data reduction which included a “process of selecting, simplifying, abstracting and transforming the raw data” (Darke et al., 1998, p. 285). Secondly, a process of data display through organised coded categories of data in the form of analytic memos to be able to draw conclusions. Finally, a process of conclusion drawing which allowed me to “draw meaning from the data and building logical chain of evidence” (Darke et al., 1998, p. 285).

As shown above, a combination of abductive and inductive modes of analysis was used to identify themes in the data using the theoretical framework of communities of practice, value creation framework and social realism, with inductive analysis allowing for themes to emerge from the data, and abductive analysis allowing me to use theoretical tools and categories to ‘look into’ the data. As can be seen above, I used these approaches iteratively. A retroductive mode of analysis was used to make explanations of the SEPs, CEPs and PEPs based on the enabling and constraining factor analysis, pointing to mechanisms that shaped the way things are (Danermark et al., 2002) through identifying enabling or constraining structural, cultural and agentive emergent properties. A retroductive mode of analysis involves looking into the level of the real which may not always be directly visible at the level of the empirical but can be deduced to be causally influential to that which appears at the level of the empirical (ibid).

3.6 Ensuring Validity and Trustworthiness

The research I conducted is qualitative in nature and validity was ensured via the following means: seeking to ensure general honesty by all participants including myself as researcher, ensuring adequate depth and scope of data collected and associated care with analysis, carefully selecting respondents and relevant documents that could contribute to the research, and analysing the data carefully and verifying my interpretations which involved:

- Cross checking my answers with interviewees or interview participants, having peers, colleagues and supervisors review my work (Cohen, et al., 1994) as a form of member checking to correct any factual errors, allow participants an opportunity to add further information, and check the adequacy of the researcher's interpretations (ibid).
- Keeping the data carefully so that a traceable data audit trail could be established for ensuring a quality case record (ibid).
- Triangulation to strengthen the data interpretation. Triangulation is the means of utilizing two or more methods to compare the sources, interviews, statistics and documents, (Alantara, 2006).
- Reflexivity: this involved keeping careful record of my own role and influence on the research process (Cohen et al., 1994) and taking account of my subjectivity and my role and position in the study. Reflexivity also involves being able to relate the research to its context, and therefore I was careful to locate the study in the field of environmental education research and the context of the Biodiversity Human Capital Development research context and wider need for green jobs development as outlined in Chapters 1 and 2.

3.7 Research Ethics

This research was granted ethics approval with the approval of my proposal by the Rhodes University Education Higher Degrees Committee. Following this, the first stage of gaining access to research participants, involved "the gaining of official permission to undertake one's research in the target community" (Cohen et al. 2007, p.55). This meant that I had to seek permission in writing from the appropriate official, which in this case was the Head of the Provincial Department to conduct my research at the site. A formal letter was sent to the office of the Head of Department explaining the purpose of the research (Appendix 5). As a researcher, I was fully aware of the professional relationship I engaged with the research participants of this community of practice, as outlined in Chapter 1. I communicated with the participants through the Director of the Unit within the provincial department. In addition, I

sought permission from participants to record the interviews and focus group discussions for transcribing and a consent form (Appendix 6) was completed by participants informing them of their rights and their agreement to participate in the research. I also needed to negotiate ethical permission from each individual involved in the research, and inform them of their right to withdraw at any time from the research. In conjunction with this is the importance of ensuring anonymity, privacy and protection of those being interviewed and the integrity of the institution, and I was careful to negotiate this with the institution and the participants involved. There were no objections to the particular Department being known in the research. And finally, I gained official permission from SANBI (Appendix 7), via the Project Director of the Groen Sebenza Programme, to conduct my research within the programme and to use project documentation in my research. Interviews and focus group discussions were set up based on participant's availability.

3.8 Limitations

There were also some limitations of this research which are articulated next.

The vastness of the province and the fact that Pioneers were scattered across the province, made accessibility a challenge for face-to-face interviews as indicated above. Also access to internet and landline telephones were a challenge for most Pioneers and therefore responses to requests were problematic in many cases.

As the national programme manager for Groen Sebenza, it was difficult to avoid subjectivity, but the research was designed to take account of subjectivity, hence I also used reflexivity to keep track of my role in the research and to report honestly on the research process followed. Using an abductive approach to analysis also helped me manage a rigorous and careful approach to the data analysis.

The non-availability of a few key informants like the Chief Director, the previous Director who was the original coordinator, who both resigned from the department and two key administrative staff members, one of whom left the department and the other due to work travels was also a potential limitation, although I tried to address this through use of documents where these were available.

3.9 Conclusion

In summary, this research was conducted as an interpretivist qualitative case study at an epistemological level, under-laboured by social realism, and included a multi-phased data generation and analysis approach as outlined above. I selected the host institution as a community of practice based on my experiences as the national programme manager of the Groen Sebenza programme as well as the good relationships I had with the management as coordinators and the staff I met through the workshops that SANBI GS programme facilitated. In addition to this, was the fact that the host institution was successful in the ultimate goal of providing jobs for the pioneers post the project and I reasoned that a positive case would offer good insights for the sector on institutionalisation of green jobs.

The rationale for the structure of this study was set out with the intention to provide a clear account of the manner in which the research was conducted. Data was generated through documentary research, semi-structured interviews, a focus-group discussion, and a questionnaire. The data was analysed in several phases to address each of the three research questions. A description of the analytic processes and categories used in each phase was provided.

Generating data for this research was ethically defensible in terms of the general conventions of ethical educational research, and particularly the Rhodes University Education Department's Research Ethics Guidelines.

CHAPTER 4:

SOCIAL LEARNING IN A COMMUNITY OF PRACTICE

4.1 Introduction

This study, as discussed in Chapter 2 uses the social theory of learning of Wenger (1998) as a lens to review how a community of practice integrates the four components that characterize social participation as a process of learning and knowing, i.e. learning as doing (practice), experience (meaning), becoming (identity) and belonging (community). I will be presenting the data on the social learning using this framework for both the pioneers, mentors and other staff interviewed in this chapter, thus providing insight into the social learning taking place in the Groen Sebenza community of practice in the host institution. In the text below I refer to Mentors as M1, M2, etc. and Pioneers as P1, P2 etc. If the data was generated from interviews, I indicate it as such SIM1, SIM2 (meaning interviews with Mentor 1, Mentor 2 etc.) or SIP1 meaning interviews with Pioneers 1, 2 etc.). FG refers to Focus Group data, with FG1 referring to focus group 1, and FG2 referring to focus group 2. C refers to co-ordinator, and therefore SIC1 refers to the coordinator and acting director interviewed.

4.2 Learning as a community of practice within the Groen Sebenza programme

The Groen Sebenza Programme team at the Provincial Department consists of the institutional staff component as well as the participant, or Pioneer component and is viewed as a community of practice because it meets the explanation given by Wenger (1998), characteristic of a community of practice. Wenger (1998) refers to communities of practice as self-organising systems, comprising of people united by a shared interest or common passion often in response to problems in a particular social context. As discussed in Chapter 2 as well, Lave and Wenger (1991) presented the theory of communities of practice as a means to understand the relational interdependence of the person (agent) and the setting (world), activity, meaning, cognition, learning and knowing. This theory highlights the social learning processes that occur in communities and I will use this to explore the learning processes which occur in the Community of Practice, which involved pioneers as well as their mentors and others in the host institution as will be elaborated on below.

Wenger (1998) describes four components of learning that characterises social participation as seen in communities of practice. I have used the four components to describe the nuances in the learning processes of participants (pioneers and mentors) within the Groen Sebenza group at the host institution. I will present the data relevant to each component below in Figure 4.1.

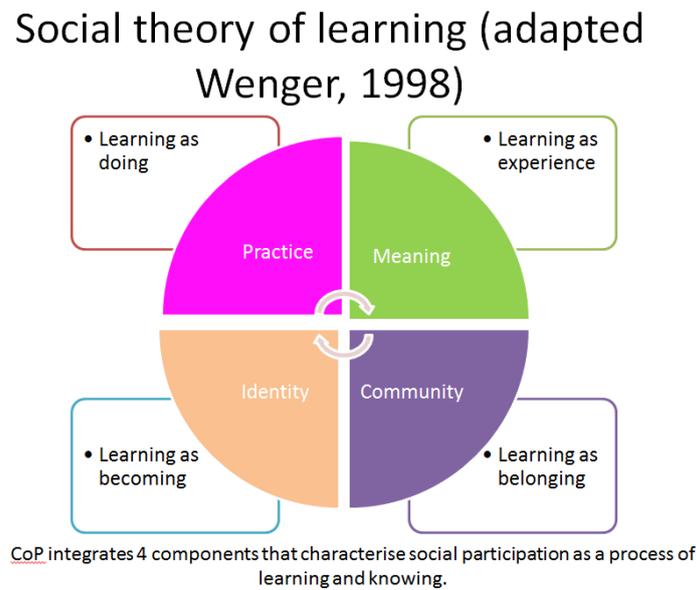


Figure 4.1 Community of Practice Social Learning Framework (Adapted from Wenger, 1998)

4.2.1 Learning as Doing (Practice)

“Learning as doing” is built on historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action. ‘Learning as doing’ engages prior knowledge and its influence in decision making in day-to-day practice. (Wenger, 1998)

The evidence presented here relates to the practices of the pioneers in the workplace at the Provincial Department of Conservation and Environment and how it contributed to their learning.

Pioneers needed to do more than just their content work, but administrative work as well since there was no admin clerk to assist. Pioneer 2 (P2), needed to do work beyond her duties and this all contributed to her improved practice in the workplace, as she indicated that “dit was baie ook omdat ons nie ‘n admin klerk gehad nie so ek het die meeste van die admin gedoen”

(SIP2), meaning that there was no admin clerk and they therefore had to do administration work.

One of the observed good learning by doing practices was when mentors took pioneers to meetings with them. For example, M2 had decided that she would, for a two-year period, take the pioneers along. She said in SIM2 said “wherever I am going every meeting, senior manager’s meeting, I take them with.” M2 in SIM2 also stated that she “takes them along to all my meetings to make sure” that learning takes place and they get the skills such as teamwork and whole co-operation. M1 identified this as a good strategy of learning as doing as she “can mentor and just take her along so that she can see what is expected of her, how we do things.” (SIM1)

Additionally, standard setting and modelling professional practice and standards also proved to be a good learning by doing practice implemented by mentors. M2 elaborated on this in SIM2 as follows, “They sit with me. They learn and P2 almost now becomes like a copycat in that sense that if she writes an email, it has to be at the standard that I would have written that email.” M4 indicated how she mentors and manages the pioneers, in a very official and structured way that supports her work, “So what I used to do, yes we used to have our monthly meetings where I would try to have it as official and structured as possible. Having agenda, having minutes” (SIM4), showing that she / he also supported an approach where standard setting and professionally structured activities were valued and used. As part of standard setting was the fact that the pioneers were encouraged to get together regularly, “which they did, I think they got together once a month”, as stated by M4 in SIM4, who also reported that there was a good practice amongst the pioneers to meet once a month to discuss their issues related to the programme.

Supporting pioneers to participate in day-to-day practices in meaningful ways was also a good learning by doing practice implemented by the mentors. M2 in SIM2 reflected that by allowing his pioneer to do a study and produce a document, he influenced the decisions in day-to-day practices, when the pioneer did a study on ‘sick building syndrome’. He says of the pioneer “And I think he wrote about 10 to 15 pages of that particular study and ... this is the document that he produced”, referring to the report that was produced by the pioneer. Similarly, M3 also followed this practice, as he/she reflects in SIM3 that “I did give them projects to do but we started off, if I remember correctly, with specialist input things. So it’s either EIA

[Environmental Impact Assessment] or a permit and then I would say, well review it.” An intense mentoring process of support was also required for examples like “if you have to give certain inputs like licence applications and how to actually write such a thing” according to C1 in SIC1, and “giving feedback, recommendations, writing of it and being thorough.” The intensity of the process comes in for the mentor because as she indicates, “it take your time to give feedback, to recommend, to say how it should be written because it can be used in court so it must be very thorough.”

Mentor 3 in SIM3 also stated that presenting at conferences and other events invited to, assisted in the pioneers’ growth and confidence. She reflects: “Enquiries came in asking us to assist with the cultural club by doing a presentation and I asked her if she’d do it and she said yes and she did it. It was great.”

Multiple opportunities for learning as doing within the work environment have been created by mentors. One such example was the fact that pioneers were given the opportunity to find out about other sub-programmes in the unit or department as well, go on site visits as stated by M4 in SIM4, who said, “say they have interest in this particular sub-program. They must go find out what is happening. And if they can maybe go on site visits or if they can do something.” Other examples of learning opportunities created for them through exposure, included visits to mines and involvement in the Eco-Schools as stated by M4 in SIM4, who said: “And I would send them like for I know some of the examples is they went to the mine, on a site visit. They also were involved in the Eco-schools programme.”

The process of participating in the State of the Environment report for the province was a great learning experience and exposure for pioneers. This learning by doing process, which included doing research, writing chapters and presenting their work to officials for their input, was a great capacity development and empowering process as stated by M4 in SIM4, “they had to compile their chapters, they had to compile presentations, they had to do presentations ... I also involved other officials to come listen to their presentations in their fields of expertise and give inputs as well.” Pioneers were given tasks to research, present and write reports and this good practice was a deliberate delegation of tasks by the mentors knowing that the pioneers would benefit professionally as corroborated by M5 in SIM5, who stated that “you would get to delegate, a person to do things that you know they would benefit professionally.”

A further good practice linked to the above, highlighting a reflexive praxis approach, was that pioneers would be expected to “do the corrections and then continue and then they would come and present again, until all two of the chapters were done” as indicated by M4 in SIM4. It was stated that the mentors would provide feedback and give suggestions on how to get information and how to set up the document, as stated “you could see the quality increase in the different versions they would submit.” Furthermore, participating in this learning process also broadened the understanding of content and context of the various topics and that of the Environment as part of the State of the Environment report process, for pioneers, as confirmed by M4 in SIM4, “they actually got a good view of what was the context/ content of each of the topics are. So that also broadened their view of environment”.

The impact of training was viewed as being positive. A strategy of training was employed as a good practice and mentors identified the people to go on relevant and job-related courses and send additional people since it would benefit them and the organisation. An example was the GIS course as indicated by C1 in SIC1, “not only the people that are in information management were sent on GIS training because GIS knowledge is needed for more positions all over the department. So the persons that were needed to do the job were identified and more people were sent on that course.”

Supporting the learning by doing outlined above, was the ‘learning by doing’ of the administration teams who enabled the opportunities mentioned above. The Focus Group (FG1) mentioned another good practice instituted by the admin and particularly the finance team which was to create a way to control all the Groen Sebenza related finances by using a separate account for GS and the communication across the finance unit was good as stated by FG1, “so even the people that was capturing the payments, we let them know that the minute you see on the memo Groen Sebenza, you know this is where you put it and then at month end or whenever then I write a letter, attach all the documentation, make out an invoice.” Referring to the tools provided by SANBI (see Chapter 1), FG1 stated, “they also gave us like ... a template, it was very useful”.

The focus group (FG1) further indicated that the coordination from senior management was good, in that the director had a good implementation strategy because “she worked closely with the mentors also, so she would have also all the information at her disposal”, this close

relationship with the mentors and pioneers appears to have further enabled the learning by doing approaches and processes outlined above.

4.2.2 Learning as Experience (Meaning)

Evidence of data presented here suggests that the Pioneers perceive their learning as experience and their contribution to the CoP as useful or meaningful.

The various training sessions that pioneers received provided a platform for learning as experience and contributed to meaning within the CoP for the pioneers. It seemed to have much relevance and impact on the learning of pioneers, as P1 in SIP1 indicates how he learnt from experience and how that capacitated him to develop tools for the province, when he stated, “I remember in the second one there was there was a session when they talked about, what do you call these high water marks and set back lines. And it was just after I developed a setback line for the Province. So I learned quite a lot from that session.”

The training offered to pioneers included four sessions (2 per year) on Environmental Legislation, Environmental Impact Assessment, Waste Management and GIS training. The relevance of the training for example, in terms of environmental management, according to M4 in SIM4 was that pioneers were being able to see and understand what compliance and non-compliance in the work context is, “so they did Environmental Legislation, which I felt is important because it just allows them to see what is the compliance and the non-compliance that takes place.” The project management training was also found to be very useful and relevant by pioneers, as it is contextualized and based on their work in the province. P1 in SIP1 says that, “It was quite useful I can say, I mean those things that we were taught, in terms of how to manage projects. And some of the examples were based on our organization.”

The cross-directorate experience and exposure given to pioneers was a good learning experience as stated by M5 in SIM5. The advantage of having pioneers exposed to other departments such as air quality added to the holistic approach to training of the pioneer. The pioneer could understand the cross-disciplinary issues better by looking for not only waste but also the information about air quality, and the process of waste licensing etc., for example “if a waste license comes if a person applies for waste license it might need inputs from air quality and she should be able to understand that this might trigger something in the air quality”.

The growth and development of skills at various levels was an important aspect of the learning through experience, especially from P2 who shared in SIP2 that they were thrown in at the deep end to prepare a powerpoint presentation for a meeting and having to present herself, “so doen ons elkeen ‘n topic, kry dan berei ons mos ook daarop, dan maak jy ‘n presentation.”

P2 gave further evidence of growing in experience as she was exposed to the field of work, stating in SIP2 that her mentor took her along everywhere as they did many site visits, “Ons het baie uit gegaan site visits gedoen. Hy het vir my orals saamgevat.”

In addition, pioneers also had to do research and write a small report afterwards, which was all part of their learning as experience and making meaning of their work, as stated by P2 in SIP2, “So ons moet maar so ‘n verslaggie skryf oor hoekom, dit so gewees en so aan.” According to M2 in SIM2, the mentee also learned from the mentor’s interactions with mine managers and here learning through watching him in action was key, when he said, “They have met with mine managers although they have not said much but they will sit and would see the discussions that I have with the mine managers. The language that you are confident in terms of how you present.” These were valuable lessons learned through gaining this exposure and experience and contributed in improving the communication skills set of the pioneer.

M1 as stated in SIM1 feels that her pioneer was given a range of experiential opportunities to learn and strengthen her work experience. Learning evolved as the member learnt confidence and sharpened their skills set. The pioneer’s changing ability and growing in experience is shown because the mentor exposed the pioneer to waste issues for example and in SIM1 she stated that, “They will take her with them and then she will have... or give her a slot to do a presentation on whatever they’re doing.” She further stated that she requested the pioneer to “compile a presentation on this topic and develop a resource” and reported that, “she done a perfect presentation. The confidence that was there, the eye contact with the learners and after that she gave them their activity. And then ... I could see the confidence that was emerging from her.”

M4, as reflected in SIM4, would expose learners to strengthen their areas of development or ‘weaknesses’ for example if they are shy they will be encouraged to do more presentations and this would encourage them to grow in experience, “I would expose them to do more presentations. And some would be ahhm. I know all of them, like they have different

personalities and I know exactly how.” Further evidence of members growing in experience and confidence was shown by M2 in SIM2, being thrown in the deep end under pressure and thus growing their ability to deal with matters of great importance and of urgency by the mentor stating, “then tomorrow if the HOD does again require that in my absence they will confidently know how to present that information.”

M5, in SIM5, presented evidence of growth in experience by the pioneer when she highlighted that, “as later they realized this actually improves my skill in public speaking.” This can be seen as capacity development and a meaningful process as part of their development.

The skill of team work through peer learning was also shown by particularly the scientists in the CoP who, according to C1 in SIC1, “needs to do fieldwork and some don’t have that experience.” According to this mentor, the pioneers could then “team them up with another person and they can be together they can actually learn in the field.”

The value of the having the pioneers in the institution and their ability to affect and bring about positive change in the department was communicated by C2 in SIC2 when she said, “to have a person that you could rely on that could do things, not to be shy to follow up, that’s smart enough to take initiative that was relevant and that would not destroy things.” She further elaborated on their worth, “to the point enough to make sure that we meet deadlines and so forth, to follow up with the person on the deadline that was coming.” In terms of contributing to the work of the department M4 in SIM4 also reported that pioneers were growing in experience and shown ability to affect and contribute to positive change, when she mentioned how “Pioneer 3 did inland water and environmental governance, pioneer 4 did biodiversity and green economy and pioneer 5 also did land report.”

The value that the pioneers added to the institution as well as to their own professional growth was highlighted by C2 in SIC2. She stated that she “gave her additional work that we have not done before, but we could not because we didn’t have staff.” Therefore it implies that the department actually, “were able to expand what we were doing as a department which is very nice. As a department we finally get to expand, we finally get to do what we need to do, to finally expand and see how the idea would work in your head.” In addition, there was great diversity in the group of pioneers appointed, with a variety of qualifications, some with diplomas and others with masters degrees. They could be used based on their skills and

knowledge levels and this added value to the organisation. The department could expand on the work they could not do before due to staff and skills capacity. They could expand on their mandate. This also added value to the individuals since it opened opportunities for the pioneers.

Pioneers were empowered to take initiative and were invited to participate in, and were allocated various projects to learn through experience such as the process of learning by doing process of participating in the provincial State of the Environment Outlook report writing process, which was a valuable learning experience. Not only did they participate in it by contributing information but the learning from this activity was immense, as stated by C1 in SIC1, “they were involved in this process you could see they would write about certain subjects that need to go in there and they will get feedback and they would get suggestions on how to get information on how to set up the document and you could see the quality increase in the different versions they would submit.”

M3 in SIM3 further noted that she was hoping that the pioneer sees her involvement in the process as a meaningful contribution to the Environment Outlook Report of the department as well as her professional development, when she said, “I’ve shown the link to the Environmental Outlook in our work-plan planning, so that she understand where it links ... it’s something that she actually started with when she was with Groen Sebenza and hopefully it’s going to be something good.”

M4 in SIM4 confirmed the value of the pioneers participating in this process and that it was a capacity development process because they were required to do research, writing of chapters and presenting to officials for input, when she said, “they had to compile their chapters, they had to compile presentations, they had to do presentations.” She was also innovative in involving other colleagues “to come listen to their presentations in their fields of expertise and give their inputs as well”, which contributed to the exposure and further development of the communication skills of pioneers.

Pioneers were also empowered to do a project and given the task to take responsibility of the audit of the project and in so doing learning a valuable skill, working closely with the mentor. M5 in SIM5 reflects, “she would then do the audit and then give feedback and then if say maybe there was an intervention needed, she would write the letter. And then follow up with the municipality to see if maybe further things are needed; then only the supervisor will

intervene, but they were given that platform to say ‘you take responsibility you did the audit, so you will see through the process.’”

The application of the knowledge acquired through experience was an important aspect of the mentoring process and also assisted the province in terms of the information provided, as M5 in SIM5 reported that her pioneer was given projects to put her knowledge to use. She could identify sites and give valuable information that the mentor could use to report to the Director of the unit. This related to the plotting of the “licenced and un-licenced hundred and sixty-five sites in the province” which the pioneer “did herself.” M5 in SIM5 further highlighted the value of the pioneer doing this work and how this learning evolved and the ability to have impact and affect the operations of the unit. The mentor indicated that “she could now get an understanding to say in this district its, these sites are the non-compliant, at these sites it’s higher than 50% and she would highlight those.” This impacted on the planning and made it easier for the mentor to report and leverage budget from the director. She said it made “it easier for me, maybe I have to present to the Director to say ‘I feel our budget should be up because of this.’ I am just proud to say ‘these are the areas’”.

Pioneers were assigned various tasks relevant to their work as good working experience. One pioneer was given a project/task to do in a potentially high waste area of one of the towns in the province. She did research and consulted with the municipality. An intervention waste plan was developed, and this assisted in predicting beforehand what the waste volumes would be and putting in place measures to respond to it. M5 in SIM5 stated that these “interventions helped in the sense that we were able to predict beforehand that waste volumes will be a problem.” She also managed to “sensitise the current recyclers” in suggesting alternative options because of the challenges of waste recycling markets and being located in bigger cities like Johannesburg. This is another example of the contribution and value the pioneers added to an existing problem within the waste recycling arena.

In addition to the meaningful experience for the pioneers, the mentoring experience was also good learning experience and meaning making process for most mentors. For M5, the mentoring experience was one of gathering information. It gave her the tools for making sense and assisting the mentoring process and ability to affect change, stating in SIM5 for example, “for this month this is how I did it, then you are able to sort of identify the gaps to say this is lacking.” She could also do a kind of comparative mapping process of activities as a reflective

tool. Mentors also reflected as learning through experience and an admission that the “mentoring part should have been in my job description.” (SIM2). M3 in SIM3 also indicated that the pioneer was also growing in experience because of the meaningful feedback she gave to her and it was appreciated to improve practice, when she stated “I gave her feedback on that [a product], so that seemed to work very well with pioneer 6”.

In support of the mentoring process, M3 in SIM3 also stated that she needed to guide pioneers professionally, since one pioneer was unsure about where she fitted in terms of exploring the work and professional terrain, “it was a question of guiding pioneer 6), but professionally just to develop as an Ecologist but for pioneer 7, I think it was a situation that she needed to find out where she fits, where she wants to go.”

One of the learning through experiences that impacted on the programme was the planned intentions of the province to link the implementation of the Groen Sebenza programme with district municipalities where a great need existed to support biodiversity conservation and climate change issues. However, this failed due to challenges of insufficient budget and the fact that municipalities are highly politicized. Lots of work was done with Municipalities through as indicated by C2 in SIC2, when she said “the second rollout should have been with the municipality. So we said, OK we weren't able to.” She stated that the “two initiators in our Department lobbied with municipalities to get their buy-in to so that we could place somebody there and either that they would be the host institution, or we would be the host institution.” This however did not materialise.

4.2.3 Learning as Belonging (Community)

Wenger (1998) contends that ‘community’ is used in Community of Practice theory to imply relations of mutual engagements organized around what participants do as they participate in community practices. It is therefore a group of people who interact, learn together, build relationships and in the process develop a sense of belonging and mutual commitment as also discussed in Chapter 2. This is evident from the data from P1 in SIP1 indicating the good relations that developed between him and the mentor, “He came to my office just to encourage me you know”, as well as the support that he received from both the mentor and the institution in terms of resources and space to function in his working environment. He said, “Yes I can say that because there is a GIS plotter these big machines that are use when printing maps. So

I have been dealing with that as well and I do have a PC and a software, software required for doing GIS. So I can say there was support.” (SIP1) There is also evidence of a conducive work culture and environment as SIP1 indicated that “I don’t have words but I would say it’s a very nice culture you know.” He noted further that “colleagues normally come to me with that information and I have to help them identify whether this area is an environmental sensitive area or not” (SIP1), indicating a sense of belonging and good relations built.

There was also an acknowledgement by SIP1 of a mentor being assigned to him at the start of the programme.

- *Culture in the organisation*

From the data generated there seems to be much evidence that a conducive work environment existed within the institution. The fact that pioneers were not treated as interns, but rather as permanent workers created a sense of belonging for the pioneers and a sense of a conducive working environment, as shared by P2 in SIP2 when she said “Oh, nee dit was baie nice ons was behandel nie as intern nie maar soos ‘n permanente werker.” The fact that the pioneers were treated as colleagues and not just as interns was supported by M5 in SIM5 when she said, “basically as a unit when we have a new person, we not saying, you are an intern.” There was a clear division of work amongst everyone and it was clear what was expected from pioneers and there was always support at hand from mentors, “If you feel that you are struggling there is always that platform for consultation.” It therefore shows a culture of community existed within the unit and department and that good support was provided. Further evidence that pioneers were treated the same as the rest of the department officials, was the fact that “officials get a chance to go to at least on one training, if there is enough budget then you get a chance to attend two per year” as stated by M5 in SIM5. This was applied to pioneers as well. There was also a culture of respect displayed in the institution and this sense of respect and belonging is illustrated by M1 in SIM1, referring to the culture of respect in the organisation by the pioneer addressing the mentor as “ma” which is a sign of respect and belonging, when the pioneer stated “Ma, I got an appointment tomorrow...” in an interaction between pioneer and mentor.

A culture of support and good working relationship existed between the admin team (both finance and HR). The finance team according to FG1 also felt part of the group or community and clearly understood their support role to the programme, mentors and pioneers, and the fact

that they were involved helped them a lot, “because we could also raise our concerns” as well as ask “What do you want from us so that we work hand in hand...” There was a very close working relationship between finance and HR departments who worked very closely with the Groen Sebenza coordinator, which also provided evidence of a sense of belonging in the community, as reported by FG1, “you work very closely with the director as a manager and there was a lot of support.”

Building relationships was a key aspect of being part of a community of practice that was highlighted by M4 in SIM4, because she as a mentor created opportunities for pioneers to get to know one another better, trying to respond to what their needs are, in so doing she worked to create a sense of belonging and community, “I also would give them work to do in a sense like initially it would be about who you are and what are your needs so that we can know each other. So we can get to know the challenges that each one is facing and a lot of things did come up like accommodation issues etc. so we tried to assist the Groen Sebenza pioneers.” She (in SIM4), further elaborated on the importance of building a strong relationship with your mentee through interacting with the pioneer not just on a professional level but also on a personal level. This also highlights the mentoring style of the mentor, promoting a sense of belonging, as stated when she said “I had an opportunity when we used to attend meetings, I would interact with them not just at an official level but personal level as well.” M4 further mentioned in SIM4 the importance of relationship building with your mentee, where she indicates how the pioneers contributed to her growth as a mentor in terms of life lessons, knowledge etc., “Well I think I learned from all of the pioneers what they contributed to my life, I can’t unpack the details but throughout the two years there have been challenges from them as well.”

Building a sense of community was also promoted by building relationships across the directorate by having teambuilding activities and sessions as part of their meetings, where the group of people who interact and learn together as stated by M5 in SIM5, “We would usually go and have our meeting at the game reserve. Maybe have the meeting for one and a half day and we have the rest of the day for team building exercises.”

During these cross-directorate teambuilding exercises and meetings there would be knowledge sharing presentations from all units so that everyone could get to know what the other units were doing, creating a sense of better understanding and belonging and functioning within a

bigger team, as mentioned by M5 in SIM5, “during those meetings we would have presentations from the different units so that waste must know what air quality is doing.”

M3 in SIM3 stated that her pioneer fitted in well into what is potentially a difficult unit to come into as a newcomer or inexperienced scientist, which potentially could lead to power relations negatively affecting newcomers, but she stated, “I think she fitted in. There is different working cultures within the department and I was worried that she would go into a more relaxed... but in our unit in general we all work very hard so and I tried to communicate with them... it’s not a working house, you’re a professional ... so in that sense I think she actually did good.”

There was a sense of belonging as stated by C2 in SIC2, who indicated that amongst the group of pioneers, they would visit one another, indicating that there was a sense of belonging to one family, “I know they did they would visit each other when somebody from a place in the region would come and visit that would visit each other it was a sense of we belong to the same thing we are one family, one group it was that sense.” C1 in SIC1 also highlighted the issue of peer learning amongst pioneers. They could learn from each other, they would share information through presentations, get feedback from peers and mentors to improve the quality of their work in a safe work environment. She stated that, “we could give them feedback and it was in a relatively safe environment and there would be this interaction and somebody else would be able to assist each other. And they could learn from each other that this person actually did very well and there’s something that everybody can take home.” So a safe space and culture of sharing and learning was created by mentors.

M2 in SIM2 indicated that she was trying to build a team and relationships, a group of people that identify with, and can work together on projects, “I want them to be part and parcel of that and grow with the Unit as well and we’ve come up with seven projects that they could probably do as Masters.”

There was also evidence of the mentor investing in pioneer training with the view to appointing him later as indicated by P1 in SIP1, “By then he was already in the process of getting me into his unit” as well as a good relationship between mentor and mentee as mentioned by SIP1 when he said, “he came to my office just to encourage me you know.”

Platforms were created to allow for this sense of belonging amongst their colleagues to share experiences and Pioneers mentioned that collective issues were discussed amongst themselves such as salaries, permanent appointments, study loans, payments, etc., as confirmed by P2 in SIP2, “Dit was useful se maar ons het frustrasies gehad dan jy dit deel met die anders en hulle deel ook met jou.”

- *The value of being a member of the CoP*

Evidence of a pioneer becoming a valuable member of the CoP was indicated by M3 in SIM3, when she was placed under difficult circumstances in a far-away town, removed from the mentor with limited resources and could cope well on her own,

And that is something that I see as very valuable, that characteristic especially when you go and put her back in Town X. She’s all on her own. It’s challenging there as well. You have a budget, the offices is not always nice, the way you would prefer it to be. So that was something that I picked up with her earlier on and I thought was a very good characteristic and that’s valuable for a person to have. (SIM3)

Another pioneer, P1, realized his value to the community when he stated in SIP1 that “my colleagues normally come to me with that information and I have to help them identify whether this area is an environmental sensitive area or not.” This shows a sense of belonging, as part of a community where the skills of this pioneer were recognized as being useful in the department and he could be of assistance to environmental officers with his GIS competencies.

P2 in SIP2 expressed a sense of belonging through the work she does and the impact on the work of the department, that she is part of a community and team that is making a difference and that she adds value, “so jy voel dat jy behoort hier at least.”

Amongst the mentors, there was also a sense of community and belonging, which they expressed in the following way. The group of mentors also started to talk to one another more since they had a common purpose and the platforms were created to get together and share experiences and this led to sense of community for the mentors, as stated by M3 in SIM3 “we started talking to each other and sharing and things like that. From the mentor’s side but also from the Groen Sebenza’s side, that’s when they started talking to each other more.”

M4 in SIM4 also alluded to the importance of the sense of community the mentors created within the department. Groen Sebenza allowed opportunities for sharing of challenges, best practice, improving mentoring, where you can assist others, etc. Interaction between mentors from different provinces was a good experience according to her, “You don’t really understand what they are facing and how they are dealing with issues and also if you have succeeded in some of the challenges you can share your best practice with them. And they can improve on their mentoring or they can assist you in those areas that you are struggling with.” This has been true for building a sense of belonging and community amongst mentors so much so that M4, in SIM4 remarked, “I think they looked forward to getting together and discussing their issues.”

The mentoring culture in the institution as stated above was supported as mentioned by C1 in SIC1, as one of mentors talking to each other “when they got an email with information” and sharing of information via emails. According to her “they would talk to each other, how are you going to do this etc., they were free enough to talk to each other.” A second group of mentors would consult with the first group about how mentoring and the programme works and this sharing and learning where mentors could draw from one another’s experiences is evidence of learning as belonging. This all happened even though “there was no coordinated way of doing the mentoring in the department.”

4.2.4 Learning as Becoming (Identity)

Learning as becoming (identity) is detected in the way members of the CoP talk about how learning changes who they are. Learning is transformative by nature through a process of becoming a different person as meaningful learning progresses. The development of identity is also central to the practice of newcomers in CoP and fundamental to the concept of legitimate peripheral participation (Lave & Wenger, 1991). There was evidence of this in the study, as shared below.

The impact of a networking opportunity created for the pioneer resulted in him meeting with an outsider from the sector who encouraged P1 to further his studies. He said “while there is still time I should study further, do my Honours, do my Masters”, and this highlights an ambition from the pioneer to “grow in my field of GIS specialization” (SIP1), which indicates a desire of future interest and of becoming a specialist within his field. Pioneers were also encouraged by their mentors and given the opportunity of further studies linked directly to their

areas of work as stated by P2 who indicated that his mentor was encouraging him to undertake Masters research, “Hy wil graag he dat ons met, meesters projekte aanpak.” (SIP2). P2 also saw herself doing a project in one of the communities as part of a post graduate research project in one of the communities she works in and “doing a project in one of the communities for a Master’s degree.” (SIP2) This shows the ambition of pioneers to further their studies and becoming specialists in their field of work.

The exposure that the pioneer was given helped to shape them holistically in understanding the different areas of work of the department. Examples hereof was the approach to send the pioneers to gain knowledge and experience from various areas of work within the unit and department at large as part of becoming a member of this community who understands the work of the department in a holistic manner from waste management to climate issues, as stated by M1,

It helped her because it exposed her to another... in a broader way because we deal with waste management maybe on a basic level but when she goes with somebody for waste maybe there’s a waste spillage somewhere or they go to the landfill site, she’s going to get deeper insight on that. Or maybe if we go to attend a climate workshop with M2 she’s going to get more perspective of climate issues. (SIM1)

Pioneers learnt to be diverse in their work and were open to new learning to establish themselves in a job. Learning opportunities were diverse in the sense that had exposure to other fields in the department to grow their expertise. M5 in SIM5 states of the pioneers, “they were open to other fields and then they realized, ‘Oh! I thought waste was only just about collecting I did not know that it had a technical aspect.’” As a result of the culture in the institution, pioneers developed their interest and showed their interest and passion towards certain areas of work and this led to them being appointed in the jobs in the sub-programmes, as mentioned by M4 in SIM4, “Like Pioneer 4, he enjoyed Compliance and Enforcement, whereas Pioneer 8 was interested in Waste and so that’s how they now are appointed in those sub-programmes.” M3 helped his pioneer finding her feet in finding the correct career path or job fit related to her passion area, which was environmental management, as stated in SIM3, “he pulled her into the environmental management unit and she seems to be happy and he’s now supporting her obviously there.” M3 further stated that “it seems that she fits in better with the environmental management team”, which is an indication of the mentor assisting the pioneer in finding her niche and establishing an identity within the CoP.

Evidence was also presented of mentors moulding the pioneer and working with her to become versatile, “a jack of all trades”, which is a hallmark of an Environmental Education (EE) person according to M1 (SIM1), which was a good practice and feeds into the approach of exposing pioneers to a range or diverse experiences in becoming a member of the CoP. The pioneer, for example, comes from a Geography background and needed to be trained to be able to do EE which she managed at the end of the quarter, “because of the background that she was coming from... Geography I have to bring the Environmental Education to her because if you were from Environmental Education, you have to be jack of all trades. And while we are mastering what we doing ... I have to bring her slowly but surely ... and at the end of the quarter she managed to ...” (SIM1).

The relevant training and workplace experience benefitted pioneers and they progressed into vacant jobs within the department due to that and this “put her in an advantage that when the post was advertised of all the people that were interviewed, she was the most ready and most competent” (SIM1) for the job. The institution, according to C1 in SIC1 reported that they used a reputable Higher Education Institution like Potchefstroom University for the training of pioneers. They identified the gap in terms of what is needed in the unit or programme and responded with sending the pioneers on relevant training that would benefit the work directly, “we send him on a week with training at Potch, very intensive training course, on Saturday is writing exams that help them to solidify that knowledge in depth.” For example, a pioneer got a job (an existing post in the establishment that needed to be filled) linked and based to the training he/she received, with C1 stating that, “I know of one person that went on such a waste management training because it's relevant to the Local Municipality, and what they do and that person actually applied for a job in waste management and got the job.”

The pioneer taking initiative as a newcomer in the CoP with an internet problem and in the process becoming a valuable member to the organization was reported by M3 in SIM3 who stated that it “was a very key thing for me to have experienced. At some point she did something which I did not ask her and she didn’t ask whether she can do it. She just did it ... It’s something stupid but it’s something quite important because we’ve got a very big problem with our internet”.

M5 in SIM5 indicated that her pioneer was in a process of becoming a different person through her growth and adding value to a unit that required her skills (research) by stating, “she was best in you know, like your research, because she would say, secondary asbestos problem conditions the problem.” The administrative and finance reference group, FG1, mentioned that, “they were really focussed” because the pioneers, who were newcomers to the community, knew what they were assigned to and where they were progressing towards. This speaks to the value that pioneers added to the institution.

P2 in SIP2 indicated that her mentor understood and respected her personality, protected her and had patience with her through the exposure given to her during meetings and other activities, noting that the mentor would expose her but never over-pressurise her in meeting settings. She admits that she has made strides with her confidence levels but its work in progress she said, “Hy sal my nooit as ons in ‘n meeting is, hy weet hoe ek is. Hy sal nooit vir my somaar so expose maar or ‘n spot light op my sit or dinge te laat doen nie. But I am getting there.”

From a mentoring perspective and how the learning added to their identity within the CoP, Mentors have also learnt a lot, benefitted professionally and they commented positively about the structured nature of the programme as stated by M1 in SIM1 who stated that Groen Sebenza was “more structured than the others that I’ve done prior. Yes, I can say ja because it provided a structure. I’ve benefitted a lot.” M1 further commented on how the programme encouraged their professional growth as mentors by gaining and growing in confidence, saying, “I’ve gained confidence and I had confidence, but I gained more.” In addition, she also mentioned that the pioneer herself grew in confidence and how her perspective changed through the mentoring and coaching from mentor. She reports on her mentoring saying “The way you change the perspective that I had. I was having a very negative experience but as I’ve worked with you as you coached me, as you’ve mentored me, you’ve really changed me.” M2 reflects that mentors also encouraged pioneers through conversations to become good mentors one day, based on the things he expects and instils within them as mentees stating that “whatever conversations I have with you I need to know that one day you gonna have the very same conversation with someone that will be working under, underneath you.” (SIM2)

As a mentor, M3 in SIM3 indicated that he would have liked to see how their (pioneers) independence developed, “I would have liked or preferred that there was a little bit more that they could be more independent. To see how they respond to it.”

Despite having an identity as Groen Sebenza Pioneers they were treated as normal staff members and not necessarily as interns which created a sense of belonging, as mentioned by C2 in SIC2 who said, “when they came in they were here, they were very much treated as normal staff members, they participated as a normal staff member.”

4.3 Conclusion

The data collected in this chapter was presented in a manner that aligns with the research design process described in Chapter 3 and drew on the theoretical work presented in Chapter 2 reflecting the first abductive analysis. The data describing the dynamics of learning and engagement within the community of practice as observed in the case study was arranged in four sections, each representing an aspect of this learning as per the perspective on learning in communities of practice as developed by Wenger’s social learning model presented in Figure 4.1. These included learning as doing, learning as meaning-making, learning as becoming and learning as belonging. The chapter showed the range of processes that were involved in these forms of learning (such as peer-to-peer learning), and also showed learning in a community of practice from the perspective of the pioneers, mentors, co-ordinators and the administration support team, showing that the learning in the community of practice benefitted the pioneers, but also the mentors and the organization as a whole. In the next chapter I consider the value that was created from this process.

CHAPTER 5:

SOCIAL LEARNING VALUE CREATED FOR MENTORS AND PIONEERS IN THE HOST INSTITUTION

5.1 Introduction

As discussed in Chapter 2, this study uses a value creation framework to review the outcomes of the social learning process for the pioneers, as well as the mentors. In this Chapter I discuss these forms of value, starting with value creation as reflected in the data from the mentors and then the data from the pioneers. I cover the areas of immediate, potential, applied, realized and transformative value drawing on the Wenger, Traynor and De Laat (2011) framework for value creation as discussed in Chapter 2. As can be seen across the chapter, value was created for both pioneers as well as mentors, and the organization as a whole, which is reflected in the reporting below. As in Chapter 3, I use the index coding of M1, M2 etc. to refer to Mentors, and P1, P2 etc. to refer to Pioneers and C to refer to co-ordinators. SI refers to semi-structured interview data, FG to refer to FG data and where relevant I draw on questionnaire and documentary evidence.

5.2 Value creation according to mentors

5.2.1 *IMMEDIATE VALUE created according to the mentors – indicators of activity/interactions*

In the value creation analysis, I drew on the indicators provided by Wenger, Traynor and De Laat (2011), for *immediate value*, as it had relevance to the study focus. The indicator is that I focus on is how a network member participates in a network activity that generates interest or excitement. The dimensions of this indicator include:

- Level of engagement
- Participation within the community of practice
- Quality of interaction

- *Levels of engagement*

Evidence of **levels of engagement** generated through members' participation and exposure in the Groen Sebenza network included improving or broadening their environmental knowledge, as shown by M1 in SIM1, "it exposed her to another area ... in a broader way because we deal with waste management maybe on a basic level but when she goes with somebody for waste maybe there's a waste spillage somewhere or they go to the landfill site, she's going to get deeper insight on that. Or maybe if we go to attend a climate workshop with M2 she's going to get more perspective of climate issues." (SIM1)

Besides expanding knowledge, level of engagement also includes making wider contributions to the host department, via complementing what was being done in the department. M2 said to her mentee, "I need your skill but, I need for you to understand that once I absorb you, you need to spend a certain amount of time within the unit you know. To grow to learn, what, what I am doing and then to complement what we are doing in the unit. Because we don't just want to transfer the skill and the person go to another department." So, the level of engagement reflects a commitment to going beyond duty of mentoring, to ensure the retention of the person in that position and investing in the person on a personal level, as was also shown in Chapter 4.

Additionally, mentors showed a level of engagement via their level of support for pioneers in the form of giving them projects, sending them to conferences, giving them feedback on their work, and giving them guidance on workplace practices as was also shown in Chapter 4. For example, M4 in SIM4 described how he or she helped the pioneer to "unpack the KPAs" and the "GAFs" meaning she was helping the pioneer to understand what key performance areas and generic assessment factors are in the organization, which are typical management tools used in government departments. She explains that this was successful, and noted that it led to further engagement around work plans, "and the GAFs, ja! And they knew exactly what they were supposed to do and we unpacked the work plan as well."

At an institutional level, M4 in SIM4 stated that she was actually also included in the interview process as part of the level of engagement as a mentor and being part of the selection process of pioneers created immediate value for her, and this was evident in her saying that, "I actually sat in the interview. I was part of the panel." This allowed her to consider the role of the

pioneers from the start of the process. The mentors also facilitated an induction with pioneers to give them a sense of the department and the different programmes on offer in the department and this created immediate value for the department, as stated by M4 in SIM4 who said, “then we also had an induction to get them to know what the Department is about. What the different programmes are.” The induction process also allowed the mentors to get to know the pioneers and to think through and conceptualize the potential role of the pioneers in the organization.

Pioneers were deployed wisely by mentors and an example of this was deploying the pioneer to cover the work of two vacant posts in two different municipal areas and this created immediate value for the organization as there was a possibility to deal with vacancies while creating opportunities for the pioneers, as indicated by M5 in SIM5 who noted, “that time when she was with us we had those two vacant posts. One in town K and one in district P so in a way we used her sort of to cover some parts of town K and some parts of district P”.

Further immediate value was added via the opportunities created by mentors for scientists to team up and work together when doing fieldwork so that they could gain experience in the field. This was stated by C1 in SIC1 who said, “the good thing about the Groen Sebenza is the scientists for example needs to do fieldwork and some don’t have that experience. They can team them up with another person and they can be together they can actually learn in the field” The mentor C1 (SIC1) valued her participation in the mentoring workshop as an activity within the programme in that it created a space for her to reflect on her own mentoring (what worked, does not work and how they can make it work) and being able to compare with implementers in other provinces, “I think it did add value. I’ve done mentoring training before and the understanding was a little bit different so to understand how in the context of Groen Sebenza how it’s understood assisted me. It’s also a very good platform to reflect on what’s happening and where you want to go especially with people from the other neighbouring provinces.”

- *Participation within the COP*

Immediate value for mentors was created by getting pioneers to participate in a process of responding to the Head of Department’s urgent requirements in the absence of the mentor. M2 in SIM2 for example reflects, “they will confidently know how to present that information.” The confidence shown in pioneers prepared them for future demands of the department, creating immediate and potential value for the pioneers at the same time.

Pioneers participated in activities or projects that had a positive effect on them and the work of the mentor, and this was evident through the feedback given, as indicated by M3 in SIM3 who said, “I did give them projects to do but we started off, if I remember correctly, with specialist input things. So, it’s either EIA or a permit and then I would say we’ll review it.” She goes on to reflect that “I also found that many training opportunities were made available to pioneers in which they participated such as ... she went to conferences, ... like the Memo regulation, Memo legislation training and things like that”. The mentor thought that those “were all valuable for us”.

Pioneers were given further opportunities for training, two sessions per year and together with their mentors identified the training most relevant, and meaningful to their work context, and their shared interest as part of their participation in the community of practice, as reported by M4 in SIM4 who indicated “It [the Groen Sebenza programme] enabled me to send them on two training sessions per year ...with regard to mostly related to the work that they are doing in my program, but also linked to other interests of theirs.” This also shows how immediate and potential value created for pioneers also produced immediate value for the mentors and the departmental operations they were responsible for.

Other activities or events pioneers participated included doing presentations that generated learning experiences for them and created immediate value for the mentors, as shared by M3 in SIM3 who said, “Enquiries came in asking us to assist with the cultural club by doing a presentation and I asked her if she’d do it and she did it. It was great.”

According to M4 in SIM4, and as also discussed in Chapter 4, pioneers were allowed and encouraged to participate in activities such as visiting the mines and, doing site visits and they were also involved in the Eco-Schools programme, which contributed to them better understanding the work of the community of practice, thus also creating value for the mentors and the pioneers.

- *Quality of interaction*

The value of the mentor training by Groen Sebenza allowed for an opportunity for “sharing of challenges, best practice, improving mentoring, where you can assist...” as reflected by M4 in SIM4. The interaction between mentors from different provinces was a good experience. She

further stated that, “You don’t really understand what they are facing and how they are dealing with issues and also if you have succeeded in some of the challenges you can share your best practice with them. And they can improve on their, their mentoring or they can assist you in those areas that you are struggling with”

The quality of interaction with pioneers was highlighted by M3 in SIM3 as also creating immediate value, making a comparison between undergraduate and post graduate pioneers of which the latter have a clearer sense of focus and experience to slot in easier with the work. She stated that, “the experience she has with ecological stuff was more vast at that point and she slotted in fairly quickly and easily and for me, in my interpretation, she shows great potential.”

M4 also highlighted that immediate value was created by giving feedback to mentees as a learning opportunity, “Giving feedback at the next meeting to give them a sense of what a meeting should be like” was important and added immediate value.

The mentor training that was offered by SANBI was of immediate value and this was highlighted by M4 in SIM4 when she indicated that “we get time to speak to other mentors. But I think it’s good to build the network and interact with them more”, indicating how the quality of interaction and engagement assisted in building strong networks amongst mentors.

5.2.2 POTENTIAL VALUE created according to the mentors – knowledge capital

As indicated above, in the Value Creation analysis, I drew on the indicators provided by Wenger, Traynor and DeLaat (2011) for Potential Value, as it had relevance to the study focus. Participation offers an opportunity for generating knowledge capital and creates insights that can strengthen resolve, or forge new relationships or potential application in future. Dimensions of the indicators related to this area of value creation, include the following aspects:

- Information received
- Change in perspective
- Inspiration
- Confidence

- *Information received*

Information received to build the knowledge capital of this community of practice is highlighted by M2 in SIM2 who said that, “the Unit becomes a stronger Unit because I said to them this is the direction where we will take the Unit. We want a fully scientific Unit.” The mentor alluded to the fact that investing in the future of this unit, strengthens his position and can help to alleviate the issues experienced in his unit and department thus showing potential value.

A new relationship platform was created where mentors can share information, get other insights and forged new relationships as shown by M3 in SIM3, “we started talking to each other and sharing and things like that. From the mentor’s side but also from the Groen Sebenza’s side...”

The mentoring process was further experienced by M3 as a potential value as reflected in SIM3, “it’s like guiding your understanding of what it is in general and it was just good to hear other people’s experiences as well. So, I try to do it in such a way that actually supports me and enhances my work.” This strengthened her resolve as a mentor and the process support instilled a level of confidence in her based on the information received in the sessions and participating in the mentoring process.

Additionally, evidence of information received that presented potential value was found in all of the training that pioneers attended as this increasing their knowledge capital for better understanding their work and the work that the unit and, as reported in Chapter 4, this strengthened their participation and learning in the CoP. M4, in SIM4 said that “they did Environmental Legislation [course], which I felt is important because it allows them to see what is the compliance and non-compliance is that takes place.” In addition to the training, their participation in activities also increased their knowledge capital as shown in the reflections of M4, who reflected in SIM 4 on the potential value created by the mine visits and participation in the Eco-schools programme.

Furthermore, potential value for the institution was highlighted by the shortage of skills in the department to address the ‘brown issues’ [meaning waste and pollution related environmental issues], mentioned by M5 in SIM5 who stated that, “the new courses offered at universities we had a problem that we didn’t have enough brown scientists you know as opposed to biodiversity

staff”. The perception and opinion of the mentor that courses are now offered in these areas, and that young people with skills for dealing with these issues are now coming through, is of value to the institution as articulated by M5 in SIM5 who stated that, “I think because, now those courses are offered. It’s thus that we are able capture [work with] most of these young people.”

The potential value created by training and incorporation of the pioneers and their skills into the department, helped to provide better understandings of, or insights into the problems that the Department was dealing with, and supplied information for decision making processes. As reported in Chapter 4, this inspired confidence in the reporting to the Director and requesting a budget increase as reflected by M4 who discussed how the pioneer was undertaking audits which informed them on “which sites were non-compliant and this allowed for easier planning” and allowed the mentor to present to the Director to say “I feel our budget should be up because of this”. (SIM4)

- *Change in perspective*

Evidence in **change in perspective** by a pioneer to strengthen the resolve and building confidence in the pioneer was indicated by M1 in SIM1 when she relayed that the pioneer said, “the way you changed the perspective that I had. I was having a very negative experience but as I’ve worked with you as you coached me, as you’ve mentored me, you’ve really changed me”.

Furthermore, the pioneers’ participating in activities led to knowledge capital growth as confirmed by M1 in SIM 1 who reflected on their “deeper insight” and improved “knowledge base.” Another change in perspective reported is the focus on a new area of climate change where all expertise resides at the head office level and none in the regions or in the districts to support them at head office due to a lack of capacity, which was cited by C1 in SIC1. She said that, “for climate change research, to get information and data to get valid research inputs into permits in terms of licensing is important.” She further said that “when we started with Groen Sebenza our air quality management unit was just starting out, so it was really still trying to get its feet on the ground so we didn't have any structured systematic way of managing, getting measuring monitoring getting information, so the coastal there is a lot happening in the coast, we only had one person there we at the time we started.” This shows that the programme produced knowledge capital for this new area of practice in the department.

The department also showed a change in perspective about the training exposure they gave to pioneers. They were proactive and exposed all pioneers to other fields of knowledge and experience that will assist them in future jobs. As C1 said in SIC1, “for example GIS training, not only the people that was in information management was sent on GIS training, because knowledge is needed for more positions all over the department. So, the persons that were needed to do the job were identified and more people were sent on that course”.

- *Inspiration*

The potential value that created **inspiration** was evident in the mentor reporting that pioneers’ resolve was strengthened and built confidence to participate as a valued member of the community of practice, “I had an opportunity when we used to attend meetings, I would interact with them not just at an official level, but personal level as well. So, we would talk about things and also that’s how I would actually encourage them to compile their CV’s and apply and so.” (S1M4). This shows the mentor going the extra mile to inspire and encourage the pioneer to develop not only on a personal but also professional level. The participation of the mentor contributed to the life of the mentor on a personal level and allowed her to grow as a person as M4 stated in SIM4, “Well I think I learned from all of the pioneers what they contributed to my life”.

The fact that the institution invested in the pioneers by allowing them to do relevant training that benefitted both pioneer and institution is inspirational to a pioneer since it supports the work of the pioneer and develops knowledge capital as also reported on in Chapter 4. M4 stated that one of the pioneers that she was working with did a short course via the North West University and the budget came from the institution.

The satisfaction of working with pioneers as a mentor also became an inspiration to mentors in the institution as indicated by C1 in SIC1 who said that it was satisfying,

...supporting and mentoring somebody in your care that you want to see to grow and with the advantage that you could actually make the person grow into areas where you want them to grow so that he is more suitable to implement whatever and the responsibility what be for that post, independently later, after two and half years. (SIC1)

There was also intended potential value in the shown vision of the Department to forge a new relationship with municipalities via the Groen Sebenza programme, but as reported on in Chapter 4, this unfortunately did not happen due to finances and inability to establish host institution arrangements with the municipalities.

- *Confidence*

As indicated in Chapter 4, **confidence** was developed via the Groen Sebenza programme for pioneers, and also in the mentors themselves with regards to mentoring expertise. There were a number of aspects related to confidence building and its potential value. For example, pioneers were given opportunities to participate in an activity to deliver a perfect presentation, which strengthened the resolve between mentor and mentee as reported by M1 in SIM1 who stated that, “she did a perfect presentation. The confidence that was there, the eye contact with the learners and after that she gave them their activity. And then... I could see the confidence that was emerging from her.” M4 in SIM4 mentioned that her pioneer was shy at first to present but that her confidence grew as she got more opportunities and exposure.

In addition, the pioneers’ confidence levels increased, and they were inspired being part of a team and being able to contribute and grow in confidence about their presentation skills and presenting on their work areas. This was highlighted by M5 in SIM5 who said that the culture of this department is that “all mentees are going to present at the first staff meeting They first hated it but now they like it, as later they realized this actually improves my skill in public speaking.”

Many opportunities of growth were created for pioneers that instilled a level of confidence and being part of a team contributing to the bigger picture for example contributing to the state of the environment report for the province as was also reported on in Chapter 4. This was mentioned by C1 in SIC1 when stating that pioneers participated in the state of the environment processes where they could write about certain topics or subjects, contributing to the document. She noted too that with feedback “you could see the quality increase in the different versions they would submit.”

5.2.3 APPLIED VALUE created according to the mentors – changes in practice

Drawing on the indicators provided by Wenger, Traynor and De Laat (2011) for applied value, which involves the learner doing something with his or her new insight, inspiration or connection, with dimensions of this indicator relevant to this study being:

- Innovation in practice
- Use of tools and documents to inform practice
- Innovation in systems

- *Innovation in practice*

As reported on in Chapter 4, mentors influenced a change in practice by taking pioneers along with them to meetings, where they observed and learned from interactions with the stakeholders. Pioneers then returned to work and did something to apply the new insights gained in dealing with stakeholders. An example shared by M2 in SIM2 where he reported that pioneers were able to use language from the field in their presentations.

The impact and applied value of the training that pioneers underwent was another important aspect of how changes in practice were influenced. They could for example come back from a training session and implement a project relevant to their work. An example of this is shared by M5 in SIM5, when she said, “Yes, immediately after the training I asked her to actually herself think of a project that she think she can implement...”. She explained that, “we have hundred and sixty-five sites, if we include the private sites” and these needed to be classified as “licensed and un-licensed sites” and mapped for the province, “and she could plot these, the private ones as well”.

The mentoring practice as well as the mentoring process was also of great value to mentors, as M5 in SIM5 further mentioned that she could apply the information from the mentoring workshops into her day to day practice, and in so doing, change her practice, “because it was different in a sense that you will sort of you will be able to map, do you understand?... then you are able to sort of identify the gaps to say this is lacking”. According to M1 in SIM1, she could use the knowledge, skills and experience gained in the certificate course in the mentoring she did, to apply it in her everyday mentoring practice. Although she said that “I’m very long in this environment” she “learnt it long ago, but it was a very good experience for me because

I took that skill and implemented it and also Groen Sebenza where we getting training as an ongoing process”. She further explained that the structured nature of the Groen Sebenza programme was valuable to her as a mentor, as she could put into practice what she learnt, saying that Groen Sebenza “was more structured than the others that I’ve done prior. Yes, I can say ja because it provided a structure. You can apply your skills that you have acquired in a structured way”.

Other positive changes in practice, included the pioneer that was given a research task and project within the municipality dealing with a potentially high waste area and this intervention, which included consultations, had a positive impact and added value for the department relating to the problem of waste volumes and dealing with the current recyclers as indicated by M5 in SIM5 who said that, “those interventions helped in the sense that we were able to predict beforehand that waste volumes will be a problem ... and then we also managed to sort of sensitise the current recyclers that were there.”

- *Use of tools and documents to inform practice*

M1 reported in SIM1 that a pioneer returned from a learning intervention and did something with her new insights. According to the mentor she compiled a couple of resource materials “because that’s what we always do in Environmental Education”. She mentions further that she continues to use the information in the mentoring resource file to inform her practice, therefore using tools and documents in an applied value fashion”, saying these are “some of the things I do on a daily basis here and not knowing I’m applying that.”

M2 reflected on a tool that he was exposed to during the mentoring workshop facilitated by the SANBI Groen Sebenza coordinator and the lessons learned from it. He still applies it in his work and says, “for me that was then in value. One of the things that I still use up to today when I mentor, from the Nailgame.” (SIM2)

Other ways of how pioneers participated in achieving a sense of contribution through inspiration and connection to the bigger picture within the institution was through the reports such as the State of the Environment Report as indicated by M4 in SIM4, who confirmed, “so they, in that way, they contributed you know.” A pioneer was given the opportunity to do a project and be empowered in the process, using documents and doing an audit to inform her practice. This was highlighted by M5 in SIM5 saying that “she would then do the audit and

then give feedback and then if say maybe there was an intervention needed, she would write the letter to the municipality.” She was then given that platform to take responsibility, “you did the audit, so you will see the process through.”

- *Innovation in systems*

There were three examples cited of how the pioneers identified and assisted with current problems within the system within the department. Changes in practice that contributed in making a difference in the department and contributing to improvement in systems were articulated by M2 in SIM2 where he reported on how pioneers assisted with research that assisted with the health and wellness programme of the department, by looking at the ventilation systems and how it impacts on the health and wellbeing of staff members. M2 in SIM2 acknowledged that “I mean this now is gonna be the value to our Health and Wellness program. If people take capacity leave, if people become sick, we would know that these are the challenges in terms of ventilation and so forth.” In addition, another pioneer took the initiative to improve the IT system challenges experienced in the department and in so doing added value and contributed positively and innovatively to the improvement of a component of the IT system. M3 in SIM3 mentioned that “for example with EIA we cannot send people big files and stuff like that” ... and “...also with government systems and data limitations... so it shows you that if you’ve got a challenge, you look at it and you try to address it”, which the pioneer has done as he made suggestions which could be implemented to address the challenges.

The third challenge within the department was a contextual problem of licensing of landfill sites, and with the assistance of the pioneers there was a move to get more sites licensed to assist with compliance, something that the additional capacity made possible, as stated by M5 in SIM5 who noted that “currently we are sitting at around 68% of unlicensed land fill sites but we can safely say at the end of this fiscal year we will be sitting at 98% of licensed because we have a bulk I think of 33 sites that have applied for licensing.” This last example shows how the added capacity and the support provided to the pioneers produced strong applied value for the Department in terms of improving their systems and fulfilling their mandate.

5.2.4 REALIZED VALUE created according to the mentors – performance improvement

In the Wenger et al. (2011) framework, realized value is characterised by that which leads to an improvement in performance as also indicated in Chapter 2. The dimensions or aspects of this indicator that I found relevant to this study include the following:

- Organizational performance
- Client satisfaction
- Student achievements and satisfaction
- Direct delivery of knowledge products to clients

- *Organisational performance:*

As shown in Chapter 4 and to some extent also discussed above, there were quite a few interventions that contributed to the improvement of the institution's performance, where the pioneers played a crucial role by contributing to, and adding value in realizing the organizational objectives.

Key to this was the work of the mentors who engaged in good quality planning around the projects that the pioneers could work on. As said by M2 in SIM2 “the projects that we are concentrating on now, I want them to embark on, are projects that will have value back to the department”. Additionally, as also already shown in Chapter 4 and above to some extent, the presence and role of the pioneers in the unit helped the departments and units to reach their targets. M2 reflects on this as follows: “I would not ever achieve on what I am supposed to achieve ... obviously I can't do it man alone I need the warm bodies I need them to go to the regions to write reports and so forth.”

As already indicated, pioneers contributed tremendously to the organizational performance by participating in the research and writing of chapters towards the annual State of the Environment Report as part of their workplace experience as stated by M4 and C1. This has been stated many times as adding tremendous value to the institution, with the M4 stating that “they really work hard” in supporting this important process because they “had to compile their chapters, they had to compile presentations, they had to do presentations... so this for me, was the greatest achievement”.

Another significant achievement was mentioned by M2 in SIM2 when indicating that the department or institution had been acknowledged and received accolades “for two things, i.e. for contributing to the first annual Climate Change Report and receiving the accolade for the best performing province for compliance with legislation and monitoring emissions”. He indicated that the institution achieved “91%, the next province was North West at 84%, the Free State only achieved 43 %.” The mentor therefore acknowledged the role and presence of the pioneers within this institution, and how they contributed to these achievements added value.

In addition, there were also other factors and interventions that contributed to the success of this institution. The capacity development of pioneers through the mentoring and training processes contributed to improved organizational performance according to M2 in SIM2. Various milestones were achieved that is related to especially the training that pioneers received. According to M5 in SIM5, the department benefitted from the impact of the training that the pioneers received because it for example, increased the department’s capacity to increase the number of licensed sites as reported on above. The pioneer engaged in a project to generate the required information that contributed to better organizational performance as mentioned before in this chapter. These interventions assisted in the improvement of the practice within the unit responsible for waste management as indicated by M5, also mentioned above. It further assisted according to M5 in that the municipality learnt from the experience and are now in the construction phase of the second landfill site having taken into consideration the comments and recommendations made by the team.

Pioneers also fulfilled a crucial role in servicing previously un-serviced areas due to vacant posts in certain areas as mentioned above. Thus, they contributed greatly towards the performance of the department with their contributions, in “achieving an unqualified report” as stated by M5 in SIM5.

The peer learning among pioneers that took place, the sharing of information through presentations at meetings and getting feedback from mentors and peers improved the quality of work and strengthened and contributed to the improvement of the organizational performance, according to C1 in SIC1. She said that “we could give them feedback and it was in a relatively safe environment and there would be this interaction and somebody else would be able to assist each other.” She said that they could “learn from each other that this person

actually did very well and there's something that everybody can take home." Then there was a broader audience for example, your staff meeting where you would also "report about progress made and they would have the opportunity to present what they've done and you would also get feedback from other colleagues."

Furthermore, C1 in SIC1 stated that as a department they were able to perform their core functions better and expand what they were doing, with more capacity which led to improvement in performance as an organization. Some pioneers could be given "work that we have not done before" as though they "wanted to do it before" they could not due to capacity constraints. So in actual fact, she said "we were able to expand what we were doing as a department which is very nice".

In addition to this, getting the right people for the right vacant job addressed one of many solutions to the problems faced by this institution in terms of recruitment and retention as indicated by C1 in SIC1. She stated that, "If we did not get the right people then we are back at square one". This being an acknowledgement of the problem, but also an "acknowledgement of this being one of the many solutions to the problem".

This also led to C1 in SIC1, making a suggestion or recommendation to the Human Resources Development manager on the need for a reflexive nature of implementation for the improvement of the practice of the organisation going forward, identifying what worked and what didn't work. She recommended that "we should really carefully look at which elements from Groen Sebenza would work for us in other programmes, there's disadvantages and advantages of having Groen Sebenza", and we need to reflect on how we "handle it internally" (see Chapter 6 for further development of this argument).

- *Client satisfaction*

Client or organization satisfaction and increased performance and organizational development could be more visible and have bigger impact due to presence of the pioneers and the improved performance which emerged as a result as stated by M1 in SIM1. According to her, the focus of the department is "to put people first" because the department "needs to have these people, the human resource, we need them so that they can feed the mouth of the department wherever they are." She also stated that the department is more visible than before. The organisation's

impact increased due to the presence of the pioneers and became more visible on the ground, which led to client or organizational satisfaction.

Investing in the development of the skills of the pioneers has benefitted the unit as indicated in Chapter 4 and above, and by M2 in SIM2, and by C1 in SIC1. This is further supported by M2 when he acknowledged that investing in his pioneer for example assisting her with her driver's license, led to more productive and efficient work delivery, saying that "until she got her license, for me that is important, that is how you sow into someone else's life."

Client satisfaction is shown in various ways by mentors, with M2 in SIM2, alluding to the fact that the department "immensely benefitted from this internship" and having well trained and groomed individuals in the organisation. He indicated that the the programme has made his job easier by getting the right people into his unit. M2 in SIM2 further stated that he was successful in appointing and absorbing the pioneer into his unit into a permanent position and "today he is gainfully employed in the department." M4 in SIM4 felt that the pioneers made an impact in the organization "because for me, the two years they were here, they really made a great impact, because they were all willing to learn."

M3 who is a scientist, acknowledged the achievement of the personal and professional growth opportunities through the programme. She stated that as a scientist "It's not always easy working with people, so in my situation it would be nice to have a bit more people skills". She expressed the need for these skills including conflict management since "We were never trained on that. I mean we deal with research. You talk to plants and animals and they don't talk back." (SIM3)

An unintended consequence was the constraint experienced because pioneers were not able to drive vehicles which resulted in them getting exposure to meetings and forums and learning in the process by tagging along with their mentors, and this, while offering learning experiences for the pioneers, led to some client dissatisfaction because it impacted on their performance as stated by M4 in SIM4, "we had to take them with, to expose them."

The fact that through this programme, pioneers were brought in with new skills, allowed them to contribute to the performance of the department and therefore the investment paid off, as stated by M5 in SIM5 who said, "I think it added value holistically to the department. it

contributed greatly to our performance as a department ... getting those people that are bringing in new skills. So I am glad we could offer them employment in the department, at least what we have invested we are reaping.”

The value of mentoring was seen as being rewarding, especially seeing the growth of a person you mentored for two and a half years; it is a very enriching experience as indicated by C1 in SIC1 who said “for the people that were involved it was a very enriching experience from what I can pick up.” C1 further stated that as a supervisor “it teaches you things” and she learnt about how to better support staff “which improves performance in the long run.” (SIC1)

The value of having these pioneers and participating in the GS programme to the host institution was articulated by the admin and finance team in FG1 as a “satisfied client.” They felt that the institution benefitted by the qualified and much needed relevant personnel who contributed to the increased performance of the organisation. They mentioned that “we’ve now got more scientists, we’ve got more environmental officers and I mean that is what our department is all about” shows their satisfaction. They felt that “it was a good programme and our department definitely gained from it”, getting graduates that were already trained and who “know the stuff instead of us still coming to train people.” One staff member in the FG1 expressed her satisfaction as being happy that pioneers were appointed in permanent jobs, “Ek is net bly hulle het permanente aanstellings gekry.”

- *Student achievement and satisfaction*

The mentors reflected on the achievements of the pioneers in the following manner. According to M1 in SIM1, a sense of student achievement was realized when the pioneer developed her presentation and communication skills “when she came back from one of the learning interventions”, which led to an increase in performance and creativity in her work. M1 in SIM1 stated amongst others that she “was so creative, can just slot a video clip there and there in her presentations.”

Another pioneer achieved her driver’s license, and this led to an increase in her confidence and improved performance, as stated by M1 in SIM1. Student achievement was also shown as having impact on and contributing to an improvement of performance indicated by M4 in SIM4 who raised the example of her allowing the pioneer to give inputs to the State of the Environment Outlook report, a contribution that stood out for her. She also raised the impact

of the exposure that the pioneers got and that she could see this showing when she realised that “they started to realize what they liked”, which relates to the identity formation points made in Chapter 4. M5 in SIM5, also remarked that the “energy invested in training her and taking her to courses and stuff like that” paid off in the end and contributed to the pioneer’s achievements and success in the internship programme. Further acknowledgement of the pioneers’ achievements and the mentor’s satisfaction with them in terms of what they have achieved was articulated by M5 when she stated in SIM5 that they added a lot of value, “to a sense that it exposed us as professionals that contributed greatly to the department.”

And finally, the fact that the pioneer got a job because of the relevant training received was a great pioneer achievement. C1 in SIC1 stated that she knows of one pioneer that went on a waste management training course because it was relevant to the local municipality and what they do at the local authority. She stated that the person actually applied for a job in waste management and got it.

- *Direct delivery of knowledge products to clients*

This form of realised value was created via the pioneer’s tasks and research that contributed to better implementation and strengthening the work of the mentor and the department e.g. the information generated to be used in presentations and funding proposals as indicated by M3 when she said “we used it in a funding application last year” (SIM3), and that this “definitely contributed to the improvement in practice”. She further stated that although the funding was unsuccessful, the information generated through the research could be used or linked to other requirements such as the permits, assessment on environmental impacts, where the biggest pressure on species and other types of developments in the district that she is in were found.

Mentoring has become part of institutional knowledge of the organization or CoP and that is a key delivery of a knowledge product. C1 in SIC1 was of the opinion that the mentoring process assisted not just the mentors and pioneers but the organisation as a whole since, as she puts it, “it’s much broader than just the Groen Sebenza programme.”

5.2.5 TRANSFORMATIVE VALUE created according to the mentors – assessing the redefinition of success

In the Value Creation Framework, Wenger et al. (2011) indicate that Transformative Value involves transformation of the way that business is done or how the organisation operates. I focus in on an indicator dimension relevant to this study here, as found in the data.

- *New vision*

One of the mentors, M2 in SIM2 made a profound statement about the institution, describing it as a “progressive organization that is growing”. This contributes to highlighting the transformative value of the programme and how it impacted on the way business is done and changed or influenced the department in a positive way as also shown in the data in Chapter 4 and above.

The issue of the success of the programme is obviously highlighted by the employment of people from the local province and therefore the risk of losing people after a few months was alleviated by sustainable placements for the pioneers, as expressed by M2 in SIM2 who remarked that one of her pioneers was is placed “within the environment where she is comfortable.” M2 further stated that what Groen Sebenza taught them was to stop saying that “the province don’t have the skills”, but that the skills are actually within the province and it is your approaches or strategies for recruitment and retention that’s important. This highlighted a crucial issue of finding the right skills and qualifications and the fact that they are there and Groen Sebenza showed that this was possible. Another recommendation going forward as stated by M2 in SIM2 relates to the requirement of a skills needs analysis by the department. She stated that the problem to recruit and retain the necessary skills such as biodiversity officers, botanists, etc. lies internally. Posts have been advertised in the past and “people from Limpopo apply and they stay here six months or a year” before they leave and that’s why there’s always a vacancy in key skills posts.

Furthermore, evidence is highlighted of how the programme contributed to the strategic objectives of the department and how the KPA’s of all contributed to the success of the department and creating an environment where people can learn. M4 in SIM4 confirmed that the programme and the pioneers definitely contributed and “it impacted on our Strategic

Objective as the Department” as well as the KPAs of mentors. This is also echoed in the annual reports of the institution and in the Groen Sebenza evaluation report (SANBI, 2016).

Evidence of a new vision for the department was highlighted by recommendations or suggestions for improvements going forward that includes better information sharing, communication and improving practices as well as involving mentors in decision making from the start, as highlighted by M2, and reported on above.

As shown above, and in Chapter 4, the issue of mentoring and the impact thereof added value to the institution and to the individuals involved and became part of the institutional knowledge systems and in so doing contributed to the success and change of how business is done going forward. C1 in SIC1 described and summarized the participation of this institution and the impact the programme had on this community of practice well when she said, “we work with people that are so young and they have a lot of ideas that float around and so forth and you have to support them so that they get more focused on the issue, that they know how to get the information, how to translate information into a workable document, how to work with local municipalities and how to not work with them.” She goes on further to say that,

... we still have people that need a lot of support that are not interns but would still need a lot of support, employees, so I can see the way that we try to do that is influenced by what Groen Sebenza encouraged. I can’t grab it, pinpoint it, but I can see it in my one particular colleague, how she approaches that process of support to people, it is influenced by what she picked up as part of the mentoring of Groen Sebenza. (SIC1)

5.3 Value creation according to pioneers

This section will look at the value created as generated from the data from the Pioneers. As indicated above, much of the value created for pioneers has already been elucidated above, and also in Chapter 4, so I will keep the section shorter, and point so some of the key forms of value created for the pioneers and organization from their perspective, using the same indicator dimensions worked with above, where these are relevant.

5.3.1 IMMEDIATE VALUE according to Pioneers – indicators of activity/ interactions

- *Level of engagement*

The **level of engagement** speaks to the interactions and activities participated in by the pioneer through various platforms, either internally in the institution or externally with other stakeholders or partners. The level of engagement between the pioneer and mentor was highlighted by P1 indicating and confirming that they had mentoring sessions where there was a delegation and assigning of work from his mentor to do tasks or activities by stating that, “we used to sit in an office discuss our plans and he used to give me work - you should do this and that, so I can say we did have mentoring sessions.” (SIP1)

P1 engaged with external partners or stakeholders in the network that he met through attending conferences by sending them work related information (GIS data) and communicating via social media as well as with fellow GS pioneers, thus forging new relationships, learning together through engagement as part of the broader GS community, “while it’s on a social basis even though there was a time when me and Person X were, were communicating on some GIS data and I sent him some of the GIS data that I have. It is just that I can’t remember.”

Another immediate value to P2, was that she was included and participated in activities organised by the mentor which interested her and thus got exposure which benefitted her, which reflects as being given the chance to visit the mines and be guided carefully by her mentor on the work done by the organisation. She says in SIP2, “ons het na myne toe gegaan en en dit was baie interesant en dit was naby. Stap vir stap sal hy nog vir my verduidelik dat dit is wat ook hier gebeur, dit is wat hulle polisieer ...”

- *Participation within the CoP*

The Pioneers’ participation in various network activities generated some interest and excitement in the CoP. P1 in SIP1 indicated that training opportunities were given to them as pioneers and that he attended it as part of his development and exposure to the network within the field, stating, “that one ja, well my Director, said that, that we should go there.” The same pioneer participated in a network event that generated some encouragement within him to develop professionally, where a fellow member at the conference event encouraged him to study further and to do a post graduate qualification. P1 said “one of the guys that I met, I think

it was from SANBI or is based in Kirstenbosch encouraged me I should while there is still time I should study further, do my Honours and do my Masters”.

P2 in SIP2 reported that there was participation and engagement of herself as a member of this CoP as part of her professional development. She stated that her mentor treated her professionally, with respect and took her along to important meetings, and this was of immediate value to her as a newcomer in this work space as also reported in Chapter 4. The development of confidence and skills by doing presentations at meetings with municipalities, were also valued and part of the activities that she participated in that led to her development as shared P2 as well.

- *Quality of interaction*

In terms of **Quality of interaction**, pioneer, P2 stated that her mentor suggested that they have their own “get-together” as a network activity that generated interest or excitement among the group to gather as a group of pioneers and discuss and share problems, and the institutional support required. This was very useful to pioneers and the value it added to their development to be able to make sense of the world of work as they experienced it.

5.3.2 *POTENTIAL VALUE according to Pioneers - knowledge capital*

- *Information received*

The mentoring process of capacity building and sharing of information by the mentor was important in creating insight and strengthening the knowledge capital of the pioneer as shown by P1 who indicated that, “he taught me what I should look at when I am identifying whether this area is sense, is sensitive or not.” As noted above, pioneers also received information via other means such as site visits, exposure to meetings and other directorates and training programmes that they could participate in. As shown in Chapter 4 all of these information sharing opportunities held value in terms of their learning in the CoP and supported their confidence development as well as the contributions that they could make to the organization.

- *Inspiration and Confidence*

P2 indicated that her mentor’s support created a sort of confidence and inspiration for her as they forged a new relationship. He communicated what he wanted very well and would always

say that she see what she can do, and how to do it, and then do it and then she would be able to see why it was done that way. He said “Wat jy kan doen en se hoe om dit te doen, dan doen jy dit en sal jou se hoekom jy dit so moes doen, hy het baie gehelp” (SIP2), meaning what to do, when and why, giving clear guidance to her and being of great assistance. This approach not only strengthened the pioneer’s knowledge capital but also added value to their new relationship and the CoP in general. As can be seen from the data in Chapter 4 and above this general supportive approach of the mentors facilitated inspiration and confidence in the pioneers, creating potential value for them. Pioneers appreciated the efforts made by the mentors to facilitate their transition into permanent positions too, as said by P1 in SIP1, “by then he was already in the process of, getting me into his unit.”

5.3.3 *APPLIED VALUE according to Pioneers – changes in practice*

- *Innovation in practice*

As shown in Chapter 4 and above, the pioneers were involved in contributing to workplace practices, in which they could apply their knowledge. Showing the relevance and impact of the training was shown by P1 as he developed a new GIS map for the province confirming that, “I was busy with developing one for the province.”

Empowerment of staff, in this case the pioneers was shown when the pioneer P1 was given the opportunity to take initiative and implement an action of servicing unused equipment, the GIS machine, and to put it to good use, when he said, “One of the first things that I had to do when I got into the Department was to write a memo and motivate that it should be serviced”, in order for it to function optimally within the unit.

In the case of P1, applied value was also demonstrated through the impact of mentoring and training on the pioneer, using what he learnt about GIS to share with other colleagues and units. P1 reflects, “Ja, in terms of GIS right now, even though I am not absorbed as a GIS as such but I am still able to help other and other colleagues when it comes to GIS.” P1 further notes, “Most of the things I learned while at Groen Sebenza I am applying them now.” This is a good indication of applied value by the pioneer implementing what he learnt during the GS internship.

- *Use of tools and documents to inform practice*

Evidence of the member of the CoP applying the knowledge gained in the project management training into his work in the organisation, was illustrated by P1 in the discussion on GIS above. He also refers to use of project management tools to inform his practice, and says, “it was quite useful I can say, I mean those things that we were taught, in terms of how to manage project. And some of the examples that we made were based on our organization.” (SIP1)

P1 showed further evidence of applied value by using the knowledge gained in a previous project to develop a new product or set back line, “and then a few months later I had to use the very same data that we collected, while we did work. I had to use it in order to develop a setback line.” (SIP1)

5.3.4 REALIZED VALUE according to Pioneers – performance improvement

- *Organisational performance*

As indicated above and in Chapter 4, the pioneers were also involved in realizing value in the units and organisation as a whole. This value was shown by the mentor by seeing the potential of the pioneer, which the pioneers appreciated. P1 stated that, “due to the fact that earlier, I assisted him in terms of GIS, I graded maps for him, he stepped in and, and then he said if you guys can’t absorb this person let me absorb this person, because I need these kind of skills in my unit.” (SIP1) So, the mentor realized the value in identifying the skills of the pioneer in terms of grading of maps and filling the gap in terms of scarce skills that could lead to better performance in terms of being able to deliver on certain products and services within the department.

In addition, through the “monitoring of all the mines and districts in the province and identification of the issues, the department could issue strict conditions with their licenses”, P2 reflected in SIP2, indicating how this allowed her to contribute to the delivery of the mandate of the provincial department.

- *Student achievements and satisfaction*

P1 alluded to a sense of achievement and satisfaction that led to the improvement in performance of fellow colleagues due to his learning and skills acquired that he could share with other colleagues and pioneers as well as help them with the identification of environmental sensitive areas. He said, “so they normally sent a request to the Environmental Officers in the department, but while that requires GIS on its own, my colleagues normally come to me with that information and I have to help them identify whether this area is an environmental sensitive area or not. So that is one of, one the things he taught me.” (SIP1)

5.4.5 TRANSFORMATIVE VALUE according to the Pioneers

There were no specific references to transformative value from the data of the pioneers, other than that which relates to an overall transformative experience for them associated with being integrated into the organisations and into the communities of practice. The main signs of transformative value from the Pioneers’ data collected was transformation related to their learning, identities and their sense of belonging in the community of practice in other words personal and professional transformation, which has been reported in some detail in Chapter 4, and also to some extent above. What is clear is that all of the other forms of value created above contributed to this overall outcome for the pioneers, and that the learning and mentoring processes were central to this.

5.5 Conclusion

From the data presented it is evident that there are a lot of overlaps of the value creation outcomes as mentioned by mentors and by pioneers. Overall the picture that emerges is that the social learning process produced value for both the mentors and the pioneers as they worked together within the Groen Sebenza programme towards integrating the pioneers into the workplace community of practice and eventually absorbing the pioneers into permanent positions.

In addition, there is a clear association between the value created and highlighted via the Value Creation Framework indicator dimensions outlined above, with that of the learning dimensions that were analysed in the previous chapter which related to the four components that characterise social participation as a process of learning and knowing within a Community of

Practice. This indicates that this process of learning to participate meaningfully in a community of practice has potential to produce value for mentors, pioneers as well as the organisations concerned, as was shown in the case of the pioneers and mentors and the wider community of practice involved in the Groen Sebenza programme in the Host Institution which formed the main focus of this case study.

CHAPTER 6

CONCLUSION: FACTORS SHAPING UPTAKE OF THE PIONEERS INTO SUSTAINABLE GREEN JOBS

6.1 Introduction

As indicated in Chapter 1, this research focuses on a case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution, whose aim was to mobilizing and empower unemployed youth and support their integration into sustainable green jobs within the SANBI - Groen Sebenza partnership landscape. Chapter 1 and 2 outlined the theoretical framework for the study, which drew on communities of practice theory, and the value creation framework that helps to identify forms of value that are created out of social learning in communities of practice. In Chapter 4 and 5 I have reported on these processes and the value created for pioneers, mentors and the organisation in the case study. In this Chapter I summarise the main findings from this analysis, and I deepen the analysis with identifying enabling and constraining factors influencing the uptake of the pioneers into the host institution. This adds a social realist under-labouring to the community of practice and value creation analysis, as explained in Chapters 2 and 3, as this offers deeper insights into mechanisms and emergent properties, which can hopefully then also help to inform other cases of similar programmes.

As indicated in Chapter 1, the main research question was:

How did processes of learning, knowing and value creation contribute to empowerment and retention of unemployed youth in a successful Host Institution in the Groen Sebenza programme, and what enabled or constrained the empowerment and retention processes and outcomes?

Sub questions:

- How did **mentoring, training and workplace experiences** contribute to the process of learning and knowing within the Groen Sebenza Community of Practice in the Host Institution?
- What **value creation elements** emerged in the implementation of the programme in support and empowerment of the pioneers in the Host institution's Groen Sebenza Community of Practice?
- What **enabling and constraining factors** shaped and contributed to the uptake of the Pioneers into sustainable green jobs at the Host Institution within the Groen Sebenza Programme?

6.2 Summary of the main findings in related to sub-questions 1 and 2

Chapter 4 and 5 addressed sub-questions one and two above. I summarise the main findings in response to these two questions here.

6.2.1 *The processes of learning and knowing in the GS COP in the Host Institution (sub-question 1)*

As stated in Chapter 2, Wenger (1998) contends that the primary focus of the theory of social learning is on 'learning as social participation' and participation here refers not just to "local events of engagements in certain activities with certain people, but to a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities" (p. 4). Furthermore, he sees a social theory of learning integrating the "components necessary to characterise social participation as a process of learning and of knowing." (ibid). Herewith a summary of the main findings within the four components of learning and knowing in the Groen Sebenza CoP in the host institution, as identified in this study.

- *Learning as doing (Practice)*

This component was characterised by the following:

- Good practices implemented or used by mentors e.g. taking pioneers to meetings with them as well as site visits, relevant training and courses provided.

- Pioneers doing work beyond duties.
- Good standard setting and professionally structured activities were in place and pioneers participated in day-to-day practices in a meaningful way.
- Multiple opportunities for learning were created for pioneers e.g. conferences, events and contributing to the State of the Environment Report, which led to the growth and confidence of pioneers.
- Other good practices instituted were from the admin and finance team related to controls that were put in place to support the learning and implementation of the Groen Sebenza programme.

- *Learning as experience (Meaning)*

Aspects highlighted in this component included:

- The various training sessions provided /offered created a platform and was a good learning experience for pioneers.
- The range of experience opportunities gained through the cross-directorate exposure created meaningful experiences and led to the growth and development of skills of the pioneers as well as their confidence. This also promoted team work through peer learning, particularly also for the scientists.
- Pioneers showed ability to add value to the mandate of the institution and to affect and contribute to positive change within the organisation.
- Pioneers were empowered to take initiative through participation in projects to learn through experience and take responsibility for the tasks assigned to them. The application of the knowledge acquired through the experience was impactful and affected the operations of the units positively.
- The mentoring of pioneers was a good learning experience and meaning making process for most mentors and the meaningful feedback to pioneers impacted on their growth.

- *Learning as belonging (Community)*

Aspects highlighted within this component included the following:

- Relationship building between mentors and pioneers was highlighted as a feature in the process of developing a sense of belonging and mutual commitment within the CoP. Examples include the cross-directorate team building exercises and meetings.

- There was evidence that a conducive work environment existed. A culture of support and good working relationship amongst the various role players in the CoP existed which led to a sense of community and belonging.
- Peer learning amongst pioneers was also highlighted as contributing to the sense of belonging.
- The pioneer becoming a valuable member of the CoP was also highlighted.
- The mentors also developed a sense of belonging and community as a group of mentors through their interaction, sharing of challenges, etc.
- A mentoring culture was supported in the institution.

- *Learning as becoming (Identity)*

Aspects highlighted that contributed to identity are:

- Network opportunities created for the pioneers impacted positively on them and the exposure helped to shape them holistically in understanding the different areas of work of the institution.
- Pioneers were open to new learning to establish themselves in a job, and through the diverse exposure grew their expertise and skills set, thus becoming versatile in the workplace.
- The relevant training and workplace experience benefitted the pioneers who could progress into vacant jobs within the department.
- As newcomers, pioneers took initiative and contributed positively to operations within the department and their confidence levels increased.
- Mentors also benefitted professionally, and evidence highlighted how their learning added to their identity within the CoP.
- Pioneers were treated as normal staff members and not interns, which contributed greatly to a sense of belonging within this CoP.

The above four components that characterise social participation as a process of learning and knowing within a CoP, highlights the impact and contribution that mentoring, training and workplace experiences had within this host institution and ultimately leading to the success related to empowerment and retention of pioneers.

6.2.2 Value Creation in support of empowerment of pioneers (sub-question 2)

As reported in Chapter 5, different types of value were created for pioneers. Chapter 4 also pointed out that this value was not only created for pioneers, but in support of creating such value amongst pioneers, value was also created for the mentors and the organisation, showing that value creation in a community of practice formation process has organisational development dimensions that are important for the creation of sustainable jobs for young interns or pioneers such as those in the Groen Sebenza programme. I summarise them here, firstly for the pioneers, and then for the mentors and organisations development.

- *Immediate value for pioneers*

Various levels of engagement which speaks to interactions and activities were participated in by pioneers both internally and externally with partners or stakeholders in the network. Participation within the CoP was through various network activities that were given to pioneers such as training opportunities and this led to empowerment of the pioneers. Pioneers developed their confidence and skills by doing presentations at meetings internally and with municipalities. Pioneers were empowered and encouraged to meet as a group to discuss and share problems, identify the support required and this speaks to the quality of interaction.

- *Potential value for pioneers*

The mentoring process of capacity building and information sharing by the mentor was important in creating insight and strengthening the knowledge capital of the pioneer. The mentor's support created confidence and inspiration as they forged relationships with pioneers. As the mentors prepared the pioneer for the job within the department, they created potential value by building the knowledge base of the pioneer, instilling confidence with the view of future appointment. Training experiences that pioneers participated in also created potential value for them.

- *Applied value for pioneers*

Empowerment of the pioneers allowed them to apply their knowledge and contribute to various aspects of the organisations tasks, at times taking leadership and solving problems. As staff members, they were encouraged to apply new knowledge gained in the work context. They were also able to do this as part of relevance and impact of training (such as project

management) and mentoring to introduce innovation in practice. They contributed actively to key projects and programmes such as the Environmental Outlook Reporting, showing that applied value was created for pioneers in the CoP.

- *Realized value for pioneers*

The empowerment of pioneers to contribute to organisational performance improvement by identifying skills to fill a gap in terms of scarce skills was a key feature of the programme. They were appreciated for this contribution, and this helped the organisation to function more effectively. Pioneers experienced empowerment through a sense of achievement and satisfaction that led to the improvement in performance of fellow colleagues due to their learning and skills acquired that they could share with others.

- *Immediate value for mentors and the organisation*

The mentors participated in and were exposed to the Groen Sebenza network and the mentor workshops, and the value created through the quality of interaction was the improvement and broadening of their knowledge base, sharing of best practice and this allowed them to make wider inputs to the department. Mentors felt valued because they were included in the interview and selection process within the host institution. Mentors' level of engagement with pioneers was impactful through the support given, various interactions and opportunities created for pioneers in terms of training and project implementation.

- *Potential value for mentors and the organisation*

A new relationship platform was created for mentors to share information, get other insights and forge new relationships. Potential value for the institution was highlighted by how the training and short courses for the pioneers addressed the shortage of skills in the department, particularly related to 'brown issues'. This led to improved understanding and insights of the problems which improved decision-making processes and reporting. Pioneers experienced a growth in knowledge capital and subsequent confidence levels based on a change in their perspective and mentors were proactive in giving pioneers multiple exposure opportunities in other fields of knowledge and expertise, which benefitted the department. Both the pioneers and mentors experienced the relationships that developed as inspirational since the institution and the mentors invested in the empowerment and development of the pioneers on a professional and personal level. Mentors created multiple growth and development

opportunities for pioneers which instilled a level of confidence and being part of a team contributing to the bigger picture and institution, was evident.

- *Applied value for mentors and the institution*

Innovation in practice that brought about empowerment of the pioneer was a key strategy by some mentors allowing pioneers to learn and observe on the job as mentors interacted with stakeholders. Changes in practice were observed through the impact and applied value of the training that pioneers underwent as well as via research tasks and projects they were involved in to contribute meaningful to the areas of work. The mentoring practice as well as the mentoring process, which include the mentoring workshops, were of huge value to mentors in their personal and professional development. Mentors indicated that pioneers could identify and assist with current problems within the system and many examples were cited that indicate the changes in practice through innovation systems introduced by pioneers, who were given the platform to take initiative and problem solve.

- *Realized value for mentors and pioneers*

Through the visionary thinking and planning of mentors and the presence of pioneers, they played a crucial role in the performance of units and ultimately the department. Other factors and interventions such as the capacity development of pioneers through the mentoring and training processes also contributed to improved performance. Pioneers could fulfil crucial roles and core functions in servicing areas that were previously un-serviced due to capacity constraints. Peer learning amongst pioneers and the information shared also improved the quality of work and ultimately organisational performance. The organisation benefitted immensely from this extended internship and their impact increased due to the presence of pioneers and became more visible on the ground which led to client/organisational satisfaction. Mentors shown client satisfaction on a personal and professional level. Mentors expressed the value of mentoring and it was seen as being rewarding and a very enriching process. Mentoring has become part of the institutional knowledge of the organisation or CoP.

- *Transformational value for mentors, the institution and the pioneers*

A statement by one of the mentors highlights the transformative value of the programme and how it impacted and influenced the department in a positive way, describing it as a 'progressive organisation that is growing'. The issue of success of the programme and the transformational

value was obviously highlighted by the employment of local youth and therefore mitigating the risk of retention experienced by the provincial institution for many years. The problem of recruitment and retention of the necessary and local skills was always an internal one and the GS programme forced them to think and act differently. Evidence highlighted how the programme contributed to the strategic objectives of the department and how the KPAs of all involved contributed to the success of the department and creating a learning environment.

Recommendations and suggestions for improvement from all stakeholders interviewed in the CoP, such as better information sharing, communication and improving practices, involving mentors in decision-making from the start, were evidence raised of a new vision for the institution. The issue of mentoring and the impact thereof added value to the institution and to the individuals involved and became part of the institutional knowledge systems and in so doing contributed to the success and change of how business is done going forward.

For the pioneers, transformational value on a professional level related to their learning and integration into the workplace, and their great achievement was getting a job because of the relevant training and support received. The work of the pioneers also contributed to direct delivery of knowledge products to the benefit of the organisation, contributing also to organisational development as explained above.

I turn now to addressing the final sub-question as this sheds further light on the two sub-questions as addressed so far. This is done in a more summative approach, and focusses on use of a retroductive mode of analysis to provide insight into the enabling and constraining factors influencing the mentoring and learning of the pioneers in the community of practice, and the value creation process. It offers a critical under-labouring and insight into the emergent properties and mechanisms shaping the uptake of pioneers into sustainable green jobs in a host institution in the Groen Sebenza programme.

6.3 Enabling and Constraining factors influencing the mentoring and learning of the pioneers in the community of practice, and the value creation process (sub-question 3)

The table below (Table 6.1) introduces and presents the data synthesized based on the enabling and constraining factors that influenced the mentoring and learning of the pioneers in the CoP

and Value Creations processes. This is based on 4 categories used i.e. pioneers, mentors, relationship between these groups and the institutional environment, as these were all found to be important to the learning in the community of practice and the value created as reported on in Chapters 5 and 6. The analysis draws on all of the data sets produced for the study and the synthesis above.

Table 6.1 A summary of the Enabling and Constraining factors influencing the mentoring and learning of the pioneers in the communities of practice, and the value creation process

Factors	Pioneers	Mentors	Relations between mentors and pioneers	Institutional Environment
Enabling Factors	<p>Multiple training opportunities provided including accredited training.</p> <p>Relevance of training provided by the mentors.</p> <p>Empowerment of pioneers- they were given opportunities for taking initiative e.g. writing memo's, submissions, projects, organising meetings, and tool development.</p> <p>Relevance of the regular mentoring sessions assisted with planning including personal development planning.</p> <p>Acknowledgement of learning as being beneficial to him/her professionally and access to further professional development opportunities.</p> <p>Individual commitment from the pioneers to go the extra mile to ensure they access and make the most of the employment opportunity</p> <p>Pioneers were part of the research and writing of the State of the Environment report</p>	<p>Mentors vision and interest in appointing the pioneers and encouraging them to take up personal and professional development opportunities. The targeted and visionary approach thinking strategically about the future of the department.</p> <p>Mentor's longer-term vision for employing pioneers and role in supporting them to find work placements and/or other opportunities.</p> <p>Clear delegation and assignment of work tasks and support oriented towards preparation for the envisaged job role within the unit.</p> <p>Created numerous networking experiences for pioneers to create exposure for them e.g. contact with other scientists in the field</p> <p>Support provided for problem solving building and relationship building, as well as workplace culture understanding and practice. Also making provision for</p>	<p>Learning as belonging was a key aspect of relationship building in the organisation.</p> <p>Professional orientation and workplace culture created between mentors and pioneers</p> <p>Pioneers were valued for their local talent and potential contributions to own province and organisation; and their role and potential contribution was clearly communicated across the organisation.</p> <p>Appreciation of the work environment and role of mentors shown by pioneers e.g. "goeie mense hier"</p> <p>Daily contact between mentors and mentees, and an open-door approach to being able to interact.</p> <p>Thorough performance assessment/management processes that were clearly communicated with a shared understanding developed with care over time.</p> <p>Professionalism maintained while also being able to show empathy in the workplace.</p> <p>The pioneers could work independently, produced high quality work that was of use to the mentors and</p>	<p>Networking opportunities in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice</p> <p>Recruitment strategy prioritised recruitment of youth from local province, this supported youth to draw on local systems of social support enabling them to stay in the positions for longer</p> <p>Recruitment strategy carefully planned based on a needs analysis which allowed for purposeful recruitment / matching of recruitment with the profiling of the position/ appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs. The need for greenskills in the province as well as</p>

	<p>process. This was tangible evidence of their achievement and contribution to the bigger picture within the department.</p> <p>Pioneers came with required and unique skills and were diverse to slot in and contribute – open to be exposed to other fields in dept and grow their expertise and skills sets.</p> <p>Pioneers stayed in the programme for a longer period, a condition also made possible by the higher than normal internship stipends.</p>	<p>and accommodating the contextual circumstances of the pioneer.</p> <p>Mentoring style orientated towards inclusivity and empowerment and experiencing of mentoring as a positive experience that is integrated into work place responsibilities / formally captured within their core criteria for management (CMCs). The mentors' commitment and views of mentoring important.</p> <p>Mentors appreciating the role of mentoring as a 'journey, not a short-term fix, learning curve', showing an open, flexible, adaptable attitude to mentoring practice. Mentoring seen as a holistic long-term development process.</p> <p>Mentors appreciated wider support from Groen Sebenza mentoring workshops because it was interprovincial and created networking opportunities for mentors.</p> <p>Giving positive feedback and recognition to the pioneers. Mentoring seen as a rewarding process and became part of the institutional knowledge practice of the institution.</p> <p>Mentors had no fear to participate in the programme because the programme provided pioneers with the right qualification that needed mentoring</p>	<p>the institution, and was also valued as such "high quality file produced by the pioneers"</p> <p>Attitude of respect and belonging amongst mentors and pioneers</p> <p>High standard setting by mentors and pioneers were held accountable. In addition, pioneers given recognition for job well done – good practice instils good culture.</p> <p>Career guidance and experiences provided by mentors gave pioneers a chance of finding their niche in dept.</p> <p>Relatively flat management structure in a smaller organisation allowed for easier access, communication and relationship building.</p> <p>A positive side of pioneers not being able to drive meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.</p>	<p>career envisioning contributed to the growth needed in the department.</p> <p>Alignment between the GS programme and the province's vision to attend to youth unemployment and redress through the focus of this programme.</p> <p>Deliberate strategy from dept to promote careers in the environment to attract right skills and strengthen the organisation.</p> <p>Appropriate institutional resources such as computers, office space, relevant workplace tools etc. supported ease of task applications.</p> <p>Bursaries were made available for further studies as part of an incentive scheme.</p> <p>External support and strong partnership provided by the wider Groen Sebenza / SANBI programme and the structured nature of the support was valued e.g. the regional coordinator position improved communication amongst mentors. Also, the training funding made available allowed for two sessions per year.</p> <p>The induction programme was beneficial to pioneers giving them an overview of the dept and its different programmes.</p> <p>Institution has experienced mentors and coaches and a previous culture and history of successful mentoring in the department; with</p>
--	---	---	--	---

		<p>and workplace experience.</p> <p>Mentors coming full circle – having started as student and volunteer themselves, coming through the ranks explains the passion and required understanding. There is a history of grooming and preparing the mentees for the world of work. Mentors being a product of good mentoring themselves in the dept.</p> <p>A skills development opportunity to grow personally and professionally.</p> <p>Supported pioneers with attainment of driver’s licence which is a requirement for the job.</p> <p>The support from the HR unit was important, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role.</p>	<p>mentors having accredited qualification in mentoring and coaching (i.e. previous investment in staff capacity building for mentoring), and a tradition of sharing experiences.</p> <p>Mentoring role is formally captured in the key performance criteria for mentors (core criteria for management (CMCs)), enabling the mentoring role to be meaningfully integrated into the mentor’s work roles, with adequate administration support provided to all.</p> <p>Professional Development Planning tools used to determine training needs of the pioneers. All other mentoring tools and documents such as portfolio of evidence in place as good practice.</p> <p>Proactive leadership and the support of senior management that could be objective and see the value to participate in this programme was crucial. Buy-in, ownership and support from the HOD was crucial as well as the senior leadership’s ability to see the potential of the programme to respond to the challenges and needs of the province and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs.</p>
--	--	---	--

				<p>Acknowledgement of the programme at a political level by the MEC and reported and promoted at the highest level at the economic cluster, portfolio committee in provincial legislature.</p> <p>Operational mechanisms put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co-operation between HR, finance and professional services.</p> <p>GS was located and coordinated within the programmes/core functions and not HR, ensured greater buy-in.</p> <p>Operational budget made available to support and implement projects was a positive.</p> <p>Opportunities for growth in the dept who rewards performance, providing incentives to grow your career.</p> <p>Cross directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences.</p> <p>Huge amount of experience and long service of senior staff within the dept.</p>
Constraining Factors	Lack of a driver's licence and inability to drive due to the policy of the department that	Mentors were not always able to meet as often as they should have due to	Physical distances between pioneers and mentors impacted on mentoring process in some	Funding constraints influenced the organisations' ability to continue with the

	<p>pioneers were not allowed to drive, meant that mentors had to drive pioneers around.</p> <p>Vacant positions were not always easily available due to budget constraints, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts.</p> <p>In one instance a mentee was from another province which led to relocation and lack of retention.</p> <p>At times pioneers also experienced insecurity about absorption into the department.</p>	<p>workload, but this was mediated via the week on mentoring offered by Groen Sebenza.</p> <p>Mentor was not initially aware of the funding available for training and resources for the pioneers.</p> <p>At times mentors experienced problems with co-ordination and communication.</p> <p>Workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial departments.</p> <p>Workload of staff increased due to the mandate demands.</p> <p>Workload demands also created time-based difficulties for meetings with pioneers.</p> <p>Not all mentors had a full understanding of what mentoring was about initially.</p> <p>Reporting processes were time consuming and added pressure as both internal and external reporting was required.</p>	<p>instances (e.g. pioneer located in Springbok and mentor in Kimberley).</p> <p>More time could have been allocated to the initial preparations prior to the initial meetings between pioneers and mentors to allow mentors to prepare more substantively for the programmes.</p> <p>It also took time for all to fully engage with the programme initially and this required improved communication from the start.</p> <p>Performance guidelines for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.</p> <p>Sometimes power differentials were experienced between pioneers and more established scientists, which was related to perceptions of scientists as well as pioneers.</p>	<p>internship programme, despite its proven success.</p> <p>Initial plans to integrate with the local municipalities did not materialise as planned due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more.</p> <p>There were also issues raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities which was related to access to information and flow of arrangements.</p> <p>Policy of the department related to allowing drives to use vehicles.</p> <p>Despite good arrangements and systems in principle, at times there were problems with procurement of goods.</p> <p>The vast scale of the province was a constraint that created a need for decentralisation of the strategy which also had the adverse effect of affecting capacity as this could not be evenly spread.</p> <p>Province also experienced capacity constraints in the institution.</p> <p>Mentoring was not initially captured in job descriptions, this was introduced after a while.</p> <p>Issues of retention of people in the</p>
--	--	--	---	--

				<p>province from elsewhere.</p> <p>Budget not keeping up with the staffing demands and at times not adequate for the vastness of the province (physical distances) causing staff to become office bound.</p> <p>Distances and times required for travelling in the vast province also caused delays and difficulties</p> <p>In some outlying areas there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting communications.</p> <p>Succession planning in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges.</p> <p>Staff turnover at senior level influenced continuity to drive and initiate the programme into the future.</p>
--	--	--	--	--

From the table above, it is clear that there are a number of inter-acting **enabling factors** that have shaped and contributed to the uptake of the Pioneers into sustainable green jobs and made it possible for the host institution to be successful in contributing to success of the Groen Sebenza programme in achieving its aim. These were well covered in the Chapter 4 and 5 analysis, indicating also the positive orientation of the Communities of Practice and Value Creation Narrative analytical tools.

From the **Pioneers' perspective** from Table 6.1, a few key enablers were identified that contributed to an enabling environment within the host institution.

- Multiple and relevant **training opportunities**, including accredited training, were created by the mentors for the pioneers as well as allowing for access to further professional development opportunities.
- Pioneers were **empowered** to take initiative and in so doing contribute to the bigger achievements of the organisation.
- Regular **mentor sessions** were held, and these were relevant and assisted with planning, including personal development planning.
- The **quality of pioneers** recruited were of a high standard and quality in terms of their individual commitment, having the right and diverse skill sets, as well as being flexible and adaptable.
- The **retention of pioneers** in the programme as they stayed the maximum period in the programme due to the higher than normal stipend paid by the programme.

The role of the **Mentors and mentoring** was also clearly an important enabling factor. As shown in Table 6.1, the following were important dimensions of the mentoring role:

- Mentors had a targeted, **visionary and long-term approach** in the appointment of pioneers and played an encouraging and supporting role in the pioneers' personal and professional development to ensure their employability.
- The **support of mentors** was a strength on multiple levels, since it is directed with clear delegation of assignments and work tasks towards the envisaged job role within the organisation. Support from mentors also included providing pioneers with problem solving and relationship building opportunities.
- The **mentoring style** of mentors was orientated towards inclusivity and empowerment and mentoring is seen as a positive experience, as well as a holistic long-term development process or journey, which indicates an open, flexible, adaptable attitude to the mentoring practice. It is seen as a rewarding process especially giving positive feedback and recognition to pioneers became part of the institutional knowledge practice of the institution.
- Mentors created numerous **networking experiences** for pioneers which contributed to their professional growth and mentors expressed appreciation of the wider support from the

Groen Sebenza mentoring workshops which created a space to network in the broader community of practice.

- Mentoring is formally captured in the **job description** as part of their CMCs (core criteria for management) in their job description and thus integrated into workplace responsibilities.
- There is a great **history and culture of mentoring**, grooming and preparing young people for the world of work in the institution and many mentors have come full circle, having experienced coming through the ranks as student, volunteer and mentee as well.
- Opportunities were created for **skills development** for both pioneers and mentors to grow professionally and personally and mentors supported pioneers with the attainment of their drivers' licence as an example of a key requirement for the job.
- The **support from the HR and unit** was an important enabler, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role.

The analysis in Table 6.1 shows that the **relationship between mentors and pioneers** was also an important enabling factor especially the following:

- The attitude of **mutual respect** amongst mentors and pioneers together with **relationship building** were key factors that created a conducive work environment with learning as belonging as a key aspect.
- The professional orientation and **workplace culture** created between mentors and pioneers were characterised by the appreciation of the work environment by pioneers, daily contact, an open-door approach to interact and the show of empathy whilst maintaining professionalism.
- The relatively flat **management structure** in a smaller organisation allowed for easier access, communication and relationship building between mentors and pioneers.
- Pioneers were **valued** for their role, talent and potential contributions to their own organisation and province and this was clearly communicated across the organisation.
- Furthermore, they were valued because they could work independently and for their **high-quality work** that was beneficial to the mentors and institution for e.g. the high-quality files or portfolio of evidence produced.

- Mentors set **high standards** for pioneers and they were held accountable and in addition they gave recognition to pioneers for a job well done, which led to the belief that good practice instils good culture.
- Thorough **performance assessment/management processes** that were clearly communicated with a shared understanding was developed with care over time.
- Other **support mechanisms** by mentors such as providing career guidance and experiences to pioneers, gave them a chance of finding their professional niche in the department. A positive side of pioneers not being able to drive, meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.

What stands out from the analysis in Table 6.1, however is the significance of the enabling factors in the **institutional environment**. These can be clustered into the following:

- **Networking opportunities** created both externally and internally in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice. Internally the cross-directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences.
- The **recruitment strategy** was both strategic and effective to attract the right skills. The prioritised focus was on recruitment of local graduates which supported youth to draw on local systems of social support and enabling them to stay in positions longer. The strategy was also deliberately planned based on a needs analysis which allowed for purposeful recruitment or matching it with profiling of the position or appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs and strengthening the organisation ultimately.
- The **external support provided and strong partnership** with the SANBI Groen Sebenza programme as well as the structured nature of the programme and support was valued, e.g. the appointment of the regional coordinator position improved communication amongst mentors as well as the funding for training made available allowed for two training sessions per year.
- The alignment of the Groen Sebenza programme's focus with the provincial department's vision to address youth unemployment and redress contributed significantly to the **political**

buy-in and support at the highest level which resulted in the acknowledgement of the programme by the MEC and was reported and promoted at the highest level at the economic cluster and portfolio committee in the provincial legislature.

- **Proactive leadership, ownership and the support** of senior management including the Head of Department, who could be objective and see the value to participate in this programme was crucial. This as well as the senior leadership's ability to see the potential of the programme to respond to the challenges and needs of the province, and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs, was a key enabler.
- Other **support mechanisms** put in place i.e. the provision of appropriate institutional resources (such as computers, office space and relevant workplace tools to support the ease of task applications), bursaries, induction programmes, operational budget support in terms of finance and HR matters, were all enablers that supported the programme implementation.
- The **culture and history of strong and successful mentoring** in organisation and good practice models such as mentoring captured in KPA's and integrated in work roles, mentors with accredited qualification in mentoring and coaching, mentoring tools and documents in place.
- Workforce comprise of a huge amount of **experienced and qualified senior staff** with long service within the organisation and the opportunities for growth in the department who rewards performance and provide incentives for career growth are indeed factors that contributed to an enabling environment.
- **Good management systems/operational mechanisms and workplace practices** put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co-operation between HR, finance and professional services. The Groen Sebenza programme was located and coordinated within the programmes/core functions and not HR, and this ensured greater buy-in from staff.

What can be learned from this is that these enabling factors play into a wider systemic picture of what is needed to make employment via a mentoring and learning process possible over time possible. It is also quite evident that there is a great correlation or overlap between the data

generated here with that of the data generated through the other two mechanisms/theoretical frameworks, thus forming a common thread throughout.

As can be seen in the table, these enabling factors were also hampered at times by various constraining factors within the programme implementation, which were less evident in the Community of Practice and Value Creation analysis, hence the need to under-labour the study with social realism, as argued in Chapter 2.

From the side of the **Pioneers** the constraints experienced, included:

- The lack of a **driver's licence** and inability to drive due to the policy of the department that pioneers were not allowed to drive, meant that mentors had to drive pioneers around.
- Vacant positions were not always easily available due to **budget constraints**, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts.
- In one instance a mentee/pioneer was from another province which led to **relocation and lack of retention** in the end.
- In terms of **job security**, at times pioneers also experienced insecurity about absorption into the department.

From the **Mentors** perspective some constraints highlighted included:

- The issue of the **workload** of mentors impacted on many processes as constraining factors, such as mentors not being able to meet regularly to discuss programmatic issues and share information. However, this was alleviated by the week of mentoring offered by the Groen Sebenza national team. Workload demands also created time-based difficulties for meetings with pioneers.
- The workload of staff also increased due to the **provincial mandate demands** and the workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial department.
- Linked to the workload of mentors, the required **reporting process** both internally and externally, added pressure since it was time consuming, although the Groen Sebenza programme tried to simplify the reporting process through providing templates and online formats where possible.

- Mentors experienced problems with **co-ordination and communication** of certain issues such as not being initially aware of the funding available for training and resources for the pioneers.
- Some mentors did not have a full understanding of the **mentoring process** and what it was about initially.

The **relations between mentors and pioneers** also experienced some constraints which included the following:

- The vastness of the province with offices and staff spread across the province meant that the **physical distances** between mentors and pioneers in some instances impacted negatively on the mentoring process e.g. a Pioneer located in one town and the mentor some 800kms away at the head office in the capital city.
- The lack of sufficient **time** allocated for the initial preparations prior to the initial meetings between mentors and pioneers to prepare substantively for the programme, was a challenge for many mentors.
- Better and improved **communication** was required from the start to fully engage with the programme initially.
- Another constraint was that the **performance guidelines** for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.
- The issue of **power differentials** was sometimes experienced between pioneers and more established scientists in particular, which was related to perceptions of scientists as well as pioneers.

Again, it is clear that **institutional environment factors** have a strong influence as challenges experienced in the programme and in Table 6.1 the following constraining factors hampered the ease in which the pioneers were absorbed into the institution. Not all of these were the fault of the organisation, for example the sheer physical distances in the province created various challenges.

- **Financial constraints** for sustainability since it influenced the organisations' ability to continue with the internship programme, despite its proven success.

- **Integration with local municipalities** was initially planned but did not materialise due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more.
- Issues of **access to information, flow of arrangements and procurement** were raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities, especially initially as the programme was being established.
- Driving of **government vehicles policy** was a big hindrance and frustration to both mentors and pioneers.
- **Vastness of the province** was a constraint that created a need for decentralisation of the staff which also had the adverse effect of affecting capacity as this could not be evenly spread. The budget in relation to staffing demands/capacity constraints were not adequate for the vastness of the province (physical distances) causing staff to become office bound.
- Related to capacity constraints were the **retention of people** in the province from elsewhere. In addition, the **distances and times required for travelling** also caused delays and difficulties.
- **ICT support** in some outlying areas as well as head office at times were problematic, there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting effective communication.
- **Succession planning** in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges. Staff turnover of senior people influenced continuity to drive and initiate the programme into the future.

The data presented also shows a great relation to the **personal, cultural and structural emergent properties** (Archer, 2000 in Chapter 2) that enabled and or constrained the retention and empowerment of the pioneers in the Groen Sebenza Community of Practice. These relate to the pioneers and mentors themselves, relationships between them, as well as institutional factors.

The data analysis in this study reveals the importance of personal and cultural emergent properties amongst pioneers and mentors, especially those related to **successful relationship building** and **creating a supportive and enabling environment for learning and professional development** within an **empowerment orientation (PEPs)**. It also further

highlights the importance of cultural and structural emergent properties in the institutional context.

For Pioneers - the enabling factors relate mostly to the **empowerment** of pioneers and learning, and **professional development opportunities** provided and created which led to the strong relations between pioneers and mentors and ultimately the retention of pioneers within the organisation. Important Personal Emergent Properties (PEPs) that helped to strengthen the learning and uptake of the pioneers into the organisation was their willingness to learn, to go the extra mile, to be innovative and to contribute where they could. Their commitment and experience of the local context was also a positive feature that contributed to their retention. The constraining factors relate mostly to the structural elements of the institution and therefore the strong occurrence of structural emergent properties, with these relating mostly to financial and physical distance constraints as well as policies such as the driving policy (SEPs).

For Mentors – the enabling factors also relate mainly to the empowerment of pioneers through the support given and **learning opportunities** created by mentors as well as the **style of mentoring** which led to the creation of personal emergent properties (PEP) such as a willingness to support mentors, to involve them in practices, to encourage them to develop confidence and to show kindness and empathy towards them while also providing strong modelling of workplace practices, structural engagements and roles. These PEPs, also assisted with the development of relations between mentors and pioneers. Important Cultural Emergent Properties (CEPs) was the organisations willingness to embrace a culture of supportive mentoring in support of the pioneers' empowerment and integration and supportive orientation and a sense of pride in the organisation and its achievement. The constraining factors are mainly related to the structural emergent properties (SEPS) which speak to the institutional elements impacting on the mentors as a key stakeholder in the CoP, especially issues such as workloads, and clarity of procedures influenced the process, as well as finances and distances.

The good relationship between pioneers and mentors that developed over time became an important Cultural Emergent Property for the organisation, in which issues of empowerment and relationship building were important, here as well a supportive and helpful workplace/organisational culture. Constraining factors strongly relate to structural or institutional issues related to resources that influenced retention practices. Distances again were a structural constraining factor for relationship building, as were poor ICT connections.

Institutional Environment – The host institution clearly displayed a positive orientation towards the pioneers and the skills that they were bringing into the organisation. There was appreciation for this which was an important cultural emergent property contributing to the empowerment and uptake of the pioneers into sustainable green jobs. A culture of co-operation across departments, strong support from HR and finances as well as senior management for both staff learning and pioneers’ empowerment and development were essential features of the learning setting leading to the uptake of the pioneers. Valuing the young people’s skills was also an important attitudinal organisational cultural emergent property that contributed to the uptake of the pioneers into sustainable green jobs. Institutional issues highlighted here that relate to structural emergent properties that affected empowerment and retention issues within the institution were related to initial lack of clarity and communications around the programme, and the physical distance, driving policy, financial constraints, and communication challenges. The constraining factors relate to structural issues mostly within the institution, but also in associated institutions such as the municipalities, where it was not easy to establish good partnerships.

6.4 Recommendations

As indicated in Chapter 1 and 3, this was a specific case study of a host institution and provincial government department in one province in South Africa who participated within a landscape of practice in the much more extensive Groen Sebenza programme. It was chosen because it was seen to be a successful example of the integration of pioneers into sustainable green jobs which was the ultimate aim of the Groen Sebenza programme (see Appendix 20) – which highlights the commitment of the host institution to permanent placement of the Pioneers into sustainable green jobs. The intention in this study was to understand the learning processes, as well as the value creation processes and the enabling and constraining factors influencing the learning and the value created, and ultimately the successful absorption and retention of the young people (pioneers) into permanent jobs. Based on the insights gained, I am able to make the following recommendations for:

6.4.1 *Recommendations for the province /host institution (within the case)*

- *Learning in communities of practice*

Continue to support the relationship building and positive culture of learning and mentoring that has developed within the workplace, as this has positive benefits for the pioneers, the mentors and the organisation as a whole as shown in this study.

- *Value creation from programmes such as Groen Sebenza*

Develop an organisational tracking system to develop further insight into the value that has been created for pioneers, mentors and the organisation out of the Groen Sebenza initiative (captured for the first phase in this study). This will help the organisation to continue to maximise the benefits from this programme and support it to continue to develop the culture of practice mentioned above which was so significant to the success of the Groen Sebenza programme in the Host Institution as outlined above.

- *Maximising enabling factors and reducing constraining factors*

Seek to develop strategies to deal with some of the constraining factors such as the driving policy, as well as the issue of distances and poor telecommunications as these are important for strengthening co-learning in communities of practice and for organisational development as shown in this research, as well as for empowerment of young entrants into the workplace. Integrate mentoring into the KPAs of senior staff in the organisation, and allow for specific learning experiences in the job descriptions of new entrants into the workplace.

6.4.2 *Recommendations that can potentially to be considered more widely in other contexts*

Based on the study and its findings, I tentatively make recommendations from the case that can be considered by other organisations. I am conscious that one cannot generalize from a case study, and hence offer these as points of consideration rather than hard and fast recommendations.

- *Job Creation and Mentoring Programmes such as the Groen Sebenza*
 - Planning is essential that is linked to the needs of the organisation in terms of recruitment and retention.
 - Political buy-in from decision-makers at the highest level eg. senior management and political leadership are critical aspects to have in place.
- *From a mentoring practice perspective*
 - Mentoring should be formally captured within the job description and KPAs of mentors and recognised in terms of the time and resource capacity spent on this important aspect of a community of practice in the work place.
 - Mentors need to be part of the planning process from the start of any programme, from the planning to the recruitment stage.
- *And for young people coming into jobs in the environmental sector*
 - Respect the culture within the organisation you are entering.
 - Relationship building is key at all levels within the organisation.
 - Take initiative, be innovative and grab each learning opportunity made available and make the most of it and have an open mind and open approach to learning from everyone inside and outside of the organisation.

6.4.3 *Recommendations for further research*

As indicated in Chapter 1 and 3, the scope of this research was relatively narrow and limited to a case study of one out of 43 host institutions within a broader landscape of the bigger Groen Sebenza programme throughout South Africa. Concerning further research, there are many other areas to be explored, such as the tracking of the pioneers in their jobs (tracer study) in terms of retention.

A limitation of this study, in terms of the sample size, was the number of pioneers who participated in the semi-structured interviews. In addition, two key senior staff members that were centrally involved in the initial implementation of the programme left the department and one admin person was not available when I visited the head office for the series of interviews. These key personnel could have further enriched the data and insights of the research. However, as shown in the study, the data that I did generate was richly textured and offered a lot of interesting insights into the learning in the community of practice, and the factors that shaped and influenced the uptake of the pioneers into sustainable green jobs. For a half thesis of limited scope, in hindsight adding more data to the study may also have made it unmanageable in scope.

The study has, however, offered a framework that is helpful for analysing and approaching the monitoring and support of pioneers into sustainable green jobs in environmental workplaces, and the study framework and tools can be used to develop similar insights into the support required for supporting young people to successfully transition from study into workplaces via internship programmes. It also offers useful insights into why longer internship programmes may be of more value than programmes that of short duration, as time is needed to build capacity and a sense of belonging, and the cultures of supportive practice in workplaces to integrate young South Africans into workplaces. Given the massive problems with unemployment in South Africa, further research can be done into the learning and building of a sense of belonging, and cultures of supportive mentoring in South African workplaces. It is hoped that this study can provide one approach to further research in this area, moreso given the insight that the Groen Sebenza programme is still being pursued as an important approach to job creation for youth in the environmental sector in South Africa.

6.5 Conclusion

The research journey has been a long and challenging process. The journey started as I was in the position of managing this huge programme nationally with its demands and numerous challenges. The programme came to an end and I moved on to another job which complicated the research from many perspectives, an example is the relevance and my sustained interest in the research in relation to that of my new job, which affected my progress with the research.

The host institution I chose for the case study research is situated in a vast province and this complicated access to staff (participants) in the semi-structured interviews and focus group discussions. I also experienced problems with the quality of one or two of the recording of interviews which impacted on the time spent on the translations. It would have been useful to use more effective equipment. On the whole, however, I am satisfied that I collected sufficient and rich data to satisfy the demands of a masters half thesis, and that I have produced a study that has relevance to the field in which it was generated, namely environmental education and green skills research.

Overall, the findings of this study concur with, and provide useful insight into the three broad impact areas identified in the evaluation framework developed by SANBI in 2014 in the Master Plan Report (SANBI, 2014), which highlighted the urgent need for interventions that strengthen

- Enhanced employability in the biodiversity sector
- Enhanced capacity of the sector to create employment opportunities, and
- Development of a replicable model for job creation and skills development.

As I am finalising this study (March 2021), the Biodiversity Human Capital Development Strategy is under review. A key initial finding of this study relates to the importance of good quality mentoring of young professionals in South Africa's environmental workplaces (Lotz-Sisitka pers. comm, March 2021). And as mentioned in Chapter 1, as this thesis was being finalised, the Presidential Employment Stimulus Plan (Office of the President, September 2020) following the initial economic shocks emanating from the COVID-19 pandemic, made yet another commitment to using the Groen Sebenza model to create and support sustainable

job creation for young people in South Africa today in the environmental sector. Thus, it is my hope that this study will add value to these immanent developments in the field.

As such, the study was well situated in the SANBI intentionality at the time, and seems to have equal relevance to the present developments in the field.

References

- AL-Mubarak, H., & Busler, M. (2012). A comparative Study of incubator's landscapes in Europe and the Middle East. *European Journal of Business and Management*, 4(10), 1-11.
- Aranha, J. A. S. (2003). *Incubator models*. iDISC, Brazil. Archer, M. (2000). *Being human: The problem of agency*. Cambridge: Cambridge University Press.
- Balmford, A., Bruner, A., Cooper, P., Costanza, R., Farber, S., Green, R. E., et al. (2002). Economic reasons for conserving wild nature. *Science*, 297(5583), 950-953.
- Beck, U. (1992). *Risk society: Towards a new modernity*. London: Sage.
- Brown, J. S., & Digid, P. (1991). Organizational learning and communities of practice: Towards a unified view of working, learning, and innovation. *Organization Science*, 2(1), 40-57.
- Buhlungu, S., & Metcalfe, A. (2001). Breaking the racial division of labour in knowledge production: Reflections on internship programmes. *Perspectives In Education*, 19(2), 67–84.
- Carter, B., & New, C. (Eds.). (2004). *Making realism work: Realist social theory and empirical research* (1st Ed.). London: Routledge. doi:10.4324/9780203624289
- Centre for Strategy and Evaluation Services. (February 2002). *Final report. Benchmarking of business incubators*. United Kingdom.
- C.I. Com organization & IMIS. (n.d.). *Incubation: History, concept and services*. Powerpoint notes
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London: Routledge.

- Cowan, J. E., & Menchaca, M.P. (2014). Investigating value creation in a community of practice with social network analysis in a hybrid online graduate education program. *Distance Education*, 35(1), 43-74. doi: 10.1080/01587919.2014.893813
- Darke, P., Shanks, G., & Broadbent, M. (1998). Successfully completing case study research: Combining rigour, relevance and pragmatism. *Information Systems Journal*, 8, 273-289.
- Development Bank of Southern Africa (DBSA) (2011). *Programmes in Support of Transitioning South Africa to a Green Economy*. Johannesburg: DBSA.
- Department of Environmental Affairs (DEA). (2010). *Environmental Sector Skills Plan for South Africa. A systems approach to human capacity development*. Pretoria: DEA.
- Department of Environmental Affairs and Tourism (DEAT). (2005). *National Biodiversity Strategic Action Plan (NBSAP)*. Pretoria: Government Printers.
- Department of Environmental Affairs and Tourism (DEAT). (2008). *National Biodiversity Framework (NBF)*. Pretoria: Government Printers.
- Department of Higher Education and Training. (2011). *National Skills Development Strategy III. Progress Report 2011 – 2013*. Pretoria: Government Printers.
- Department Environment and Nature Conservation. (2014). *Annual report 2013/2014*. Northern Cape Province.
- Department Environment and Nature Conservation. (2015). *Annual report 2014/2015*. Northern Cape Province.
- Department of Science and Technology. (2010). *Global Change Grand Challenge Human Capital Development Strategy*. Pretoria: Government Printers.
- Floding, M., & Swier, G. (2012). Legitimate peripheral participation: Entering a community of practice. *Reflective Practice: Formation and Supervision in Ministry*, 31, 193-204.

- Francois, J.A., & Quek, F. (2009). Review - situated learning: Legitimate peripheral participation. Retrieved from <http://vislab.cs.vt.edu/~quek/Classes/Aware+EmbodiedInteraction/BookReviews/SituatedLearningReview.pdf>.
- Fullard, D. (2015). *Contextual profiling: Investigating and educational response to socio-ecological issues and risks*. M.Ed Course assignment, Rhodes University, Grahamstown.
- Irwin, A. (2001). *Sociology and the environment*. Cambridge: Polity Press.
- Jarvis, P. (2000). Globalisation, the learning society and comparative education. *Comparative Education*, 36(3), 343-355.
- Kaggwa, M., Mutanga, S. S., Nhamo, G., & Thokozani Simelane, T. (2013). *South Africa's green economy transition: Implications for reorienting the economy towards a low-carbon growth trajectory*. Occasional Paper No. 168. Economic Diplomacy Programme. South African Institute of International Affairs.
- Keen, M., Brown, V., & Dyball, R. (2005). *Social learning in environmental management: Towards a sustainable future*. Routledge.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Loubser, C. (2005). *Environmental education: Some South African perspectives*. Pretoria: Van Schaik.
- Low, L. P. (2011). *Green growth: Implications for development planning*. London: Climate and Development Knowledge Network (CDKN).
- McManus, A., & Feinstein, A. H. (2008). Internships and occupational socialization: What are students learning? *Developments in Business Simulation and Experiential Learning*, 35, 128-137.

- Montmasson-Clair, G. (2012). *Green economy policy framework and employment opportunity: A South African Case Study*. Pretoria: Trade and Industrial Policy Strategies (TIPS).
- Nhamo, G. (2013). Green economy readiness in South Africa: A focus on the national sphere of government. *International Journal of African Renaissance*, 8(1), 115-142.
- Nhamo, S., & Nhamo, G. (2014). Mainstreaming green economy into sustainable development policy frameworks in SADC. *Environmental Economics*, 5(2), 55-65.
- Orr, D.W. (2004). *Earth in mind: On education, environment, and the human prospect*. Washington DC: Island Press.
- Qi, S. H. E. N. (2010). Case study in contemporary educational research: Conceptualization and critique. *Cross-cultural Communication*, 5(4), 21-31.
- Ragin, C. C., & Becker, H. S. (1992). *What is a case? Exploring the foundations of social inquiry*. New York: Cambridge University Press.
- Republic of South Africa. (1996). *The Constitution of the Republic of South Africa*. Pretoria: Government Printers.
- Republic of South Africa. (2010). *Medium Term Strategic Framework*. Pretoria: Government Printers.
- Ryan, A. B. (2006). Methodology: Analysing qualitative data and writing up your findings. In A. B. Ryan (Ed.), *Researching and writing your thesis: A guide for postgraduate students* (pp. 92–108). Mace: Maynooth Adult and Community Education. Retrieved from <http://eprints.nuim.ie/871/>
- Southern African Development Community (SADC). (March 2014). Retrieved from <http://www.sadc.int/issues/environment-sustainable-development/biodiversity/>
- South African National Biodiversity Institute (SANBI). (2011). *Jobs fund application form*. Pretoria: SANBI.

- South African National Biodiversity Institute (SANBI). (2014). *Master plan report for the Groen Sebenza Programme*. Pretoria: SANBI.
- South African National Biodiversity Institute (SANBI). (2016). *Evaluation of the Groen Sebenza Programme - Report*. Pretoria: Redflank Consulting / SANBI.
- South African National Biodiversity Institute and Lewis Foundation (SANBI/Lewis). (2010). *A human capital development strategy for the biodiversity sector 2010-2030*. Pretoria: SANBI.
- Smith, M. K. (2003, 2009). Jean Lave, Etienne Wenger and Communities of Practice. In *Encyclopaedia of Informal Education*. Retrieved from www.infed.org/biblio/communities_of_practice.htm
- The Presidency, Government of South Africa. (2012). *National Planning Commission*. Pretoria: Government Printers.
- The Presidency, Government of South Africa. (October 2020). *Building a society that works. Public investment in a mass employment strategy to build a new economy*. Retrieved from https://www.gov.za/sites/default/files/gcis_document/202010/presidential-employment-stimulus.pdf.
- UNEP, ILO, IOE, & ITUC. (2008). *Green jobs: Towards decent work in a sustainable, low-carbon world*. Nairobi, Kenya: UNEP.
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2012). *Education 2030: Incheon Declaration and Framework for Action*. Paris: UNESCO
- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2014). *World Conference on Education for Sustainable Development – Stakeholder meeting. UNESCO ESD Youth Conference, 2014. Youth Statement*.

- United Nations Educational, Scientific and Cultural Organization (UNESCO). (2019). *Framework for the implementation of Education for Sustainable Development (ESD) Beyond 2019*. Adopted at the UN General Conference, 40th Session, Paris. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000370215>
- Wals, A. E. J. (2007). Learning in a changing world and changing in a learning world: Reflexivity fumbling towards sustainability. *Southern African Journal of Environmental Education, 24*, 336-337.
- Wenger, E.(1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.
- Wenger, E. (2000). Communities of practice and social learning systems. *Organisation, 7*, 225-246. Retrieved from <http://doi.org/10.1177/1335050840072002>.
- Wenger, E., Trayner, B., & de Laat, M. (2011). *Promoting and assessing value creation in communities and networks: a conceptual framework. Rapport 18*. Heerlen: Open Universiteit, Ruud de Moor Centrum.
- Wenger-Trayner, E., & Wenger-Trayner, B. (2015). Learning in a landscape of practice: A framework. In E. Wenger-Trayner, M. Fenton-O’Creevy, S. Hutchinson, C. Kubiak, & B. Wenger-Trayner (Eds.), *Learning in Landscapes of Practice: Boundaries, Identity, and Knowledgeability in Practice-based Learning*. New York: Routledge.
- World Bank Report and Recommendations. (2014). *Learning partnerships in the program for capacity building to strengthen good financial governance in Southern and Eastern Africa. 2010-2014*.
- Yin, R. K. (2011). *Applications of case study research*. Thousand Oaks: Sage.

APPENDICES

APPENDIX 1: *(Invitation letter and Interview Schedule)*



28 April 2016

Dear DENC-Groen Sebenza Colleague

Invitation to participate in an interview or focus group discussion as part of my master's Green Skills Research of SANBI's Groen Sebenza Programme

I am Donovan Fullard, the national programme manager for the Groen Sebenza Programme implemented by the South African National Biodiversity Institute (SANBI) from 2012-2015. DENC participated in the programme as a host institution and has been identified as one of the more successful implementers within the pilot partnership programme, having appointed all the Pioneers (interns) who participated in the programme within their institution.

I am in my second year of a master's programme (M.Ed) with the University of Rhodes's Environmental Learning and Research Centre and my supervisor is Prof Heila Lotz-Sisitka. The proposed title of my research is: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a provincial department as Host Institution.

The goals of my research are twofold and include the following:

1. To explore and identify what the learning and value creation elements of the Groen Sebenza programme are that led to the uptake of pioneers into green jobs during and beyond the project within the provincial department.
2. To develop an in-depth understanding of the factors (structurally and agentive) that enabled or constrained the uptake of pioneers into sustainable green jobs.

My main research question is:

What are the learning interactions and value creation elements that contributed to the uptake of Groen Sebenza Pioneers into sustainable green jobs at a Provincial Department within the Programme; and what were the enabling and constraining factors shaping the uptake of these Pioneers into sustainable green jobs?

Sub questions:

1. How has mentoring, training and workplace experiences contributed to the learning, meaning making and identity of the (Pioneers) interns in the programme?
2. What are the value creation elements that emerged in the implementation of the programme at the provincial department?
3. What are the generative mechanisms at play in influencing organisational learning for creating sustainable green jobs?

In order for me to understand and attempt to answer the above as part of a research process, I need to embark on a data collection process. I would like to conduct semi-structured interviews and focus group discussions with available staff within the department, which will include the following groups:

1. Ten (10) Pioneers (interns) that participated in the programme
2. Host institution coordinator (Ms N. Van Olmen)
3. Mentors (that participated in the programme)
4. Administrative support staff from HR and Finance divisions (directly involved in the Implementation of the programme)

I have made an application to the Head of Department for permission to use DENC as the case study for my research and secondly, to have access to DENC staff to participate in the research process. The approval letter is attached in this communication as received from her office. I would like to visit Kimberley in the week of 09-12 May 2016 to conduct the interviews/discussions. The format of the interviews (whether individual or focus groups) will be finalised depending on the availability of participants. However, I will need to conduct telephone or skype interviews with the ex-Pioneers based in towns outside of Kimberley, if that is possible. Below is a provisional time schedule.

Please let me know should you require additional information. I am looking forward to a positive response from you in order for me to continue with my research planning process.

Kind regards,



Donavan Fullard (Mr)

National programme manager Groen Sebenza (SANBI)

Acknowledgement of participation:

Participant (Name and surname):

Signature:

Date:

DENC INTERVIEW SCHEDULE with Mr Donovan Fullard		
DAY 1: Tuesday, 10 May 2016		
#	Interview with Kimberley based staff	Time
1.	Interview Pioneer 1 – Mr Henry Mthembu (P1)	09h00-09h45
2.	Interview Pioneer 2 – Ms Leigh-Anne Groenewald (P2)	10h00-10h45
3.	Interview Mentor – Ms S. Cebekhulu (M1)	11h00-11h45
4.	Interview Mentor – Mr David Khakhane (M2)	11h30-12h30
5.	Focus group discussion with Administrative staff (HR and Finance staff: Desiree, Iris, Liezel) FG1	14h00-15h00
DAY 2: Wednesday, 11 May 2016		
#	Interview with Kimberley based Mentors	Time
6.	Interview Mentor 1 – Ms Elsabe Swart (M3)	08h00-08h45
7.	Interview Mentor 2 – Ms Elise Lameyer (M4)	09h00-09h45
8.	Interview Mentor 3 – Ms Dineo Kgosi (M5)	10h00-10h45
		11h00-11h45
		12h00-12h45
9.	Interview with Coordinator - Ms N. Van Olmen (C1)	13h00-14h00

APPENDIX 2: (*Interview schedule – questions – example for Mentors*)

Interview Schedule (for Pioneers)

Respondent no (Pioneer):

Interview time:

Date: September 2016

Introduction

My name is Donovan Fullard, I'm a master's student at the Environmental Learning Research Centre at Rhodes University in Grahamstown. I am doing a Masters research study entitled: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution. Thank you for agreeing to participate in this interview.

Purpose

I would like to ask you some questions about your experiences as a pioneer at DENC. The purpose of my research is to identify what the learning interactions and value creation elements are that contributed to the uptake of Groen Sebenza pioneers into sustainable green jobs at your department.

Motivation

It is my wish that through this case study, we can identify the elements that made it possible for the uptake of pioneers like yourself into sustainable jobs at DENC; share the lessons learned from this case and to inform future implementation of similar models of sustainable job creation projects.

Timeline: The interview should take about 30 minutes of your time.

A. Introduction questions

1. Tell me about your background.
2. Tell me about your interest in the field of study.
3. What have you done before joining the GS programme? Any work experience?
4. How did you get to know about the GS programme?
5. Tell me about the process of how you finally got involved in GS.

B. General support

1. Did you get the necessary support from your Host institution in terms of work space and equipment (**resources**)? Please explain.
2. How did you experience the **work culture** at your Host Institution?
3. What about the day-to-day **managerial support** that was provided to you?
4. Did you work, got together as a **team** of pioneers? Networking opportunities? Sharing of information?

Mentoring, Training and Workplace experience

C. Mentoring:

1. Were you assigned a mentor from the start of the programme?
2. What was the **level of support** you got from your mentor?
3. How often did you **meet** with your mentor or had mentoring sessions?
4. What **impact** do you think, the mentoring had on you personally (with regard to areas of skills development and professional development)? Name one thing you learnt from your mentor that stands out, something you could apply in your work life?
5. In terms of impact are there any **positive and/or negative aspects** of the mentoring that you would like to share/highlight?

D. Training:

1. What **types of training** you have attended as a pioneer? (eg on the job training, accredited short courses, informal training, etc.)
2. How many **training courses** (formal or informal) have you attended since the beginning of the GS programme?
3. Explain your involvement in the drafting or development of:
 - a) Personal Development Plan
 - b) Needs assessment
 - c) Portfolio of Evidence
4. Have you completed any **further qualifications** since joining the GSP (eg. a professional qualification or tertiary qualification such as honours, masters etc)?
5. What **impact** do you think has the training had on you? Are there any positive or negative aspects of the training that you would like to share? National induction as a networking and learning opportunity – any value? Can you think of

examples?

E. Work experience

1. What **impact** did the work experience had on you personally?
2. What kind of **projects or responsibilities** were you given? Did it prepare you for the work you are currently doing and how? Did you have access to all relevant resources to prepare you for the job you are in now? What were the main things you **learnt and enjoyed**?
3. Are you enjoying your **current role** in your job? What do you think the impact of your role has on biodiversity conservation in NC? How do you feel about your involvement in the biodiversity sector going forward? Do you feel you belong here and why?
4. Explain how your participation in GS has impacted on your **level of confidence** to perform in a work environment?
5. Are there any **positive or negative aspects** of the work experiences that you would like to share/highlight? Example of how you applied what you learnt and how it improved your work?

F. Conclusion

1. Summarise your main lessons learnt from your participation in the programme?
How has this opportunity changed you personally and professionally? Where do you see yourself in the near future?
2. What areas do you think could be improved upon from a national and provincial (HI) perspective?
3. Any final comments about your participation in the programme and why DENC was so successful in employing you in a permanent job? Value of the programme?

Interview Schedule (for Mentors)

Respondent no (Mentor): M1 (David); M2 (Elise); M3 (Sandile); M4 (Elsabe); M5 (Dineo)

Interview time:

Date: 10/11 May 2016

Introduction

My name is Donovan Fullard, I'm a master's student at the Environmental Learning Research Centre at Rhodes University in Grahamstown. I am doing a Masters research study entitled: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution. Thank you for agreeing to participate in this interview.

Purpose

I would like to ask you some questions about your experiences as a mentor at DENC. The purpose of my research is to identify what the learning interactions and value creation elements are that contributed to the uptake of Groen Sebenza pioneers into sustainable green jobs at your department.

Motivation

It is my wish that through this case study, we can identify the elements that made it possible for the uptake of pioneers into sustainable jobs at DENC; share the lessons learned from this case and to inform future implementation of similar models of sustainable job creation projects.

Timeline: The interview should take about 45 minutes of your time

A. Introduction questions

6. Tell me about your background.
7. What is your role/position within the department?
8. How long have you worked within the department?

B. General

5. How many pioneers have you mentored in the GSP?
6. How did you get involved in the GS programme?
7. How were the mentees allocated to you? Were you consulted in the process?
8. Have you mentored any interns before?

Mentoring, Training and Workplace experience

C. Mentoring:

1. Is there a culture of mentoring in the institution?
2. Is mentoring part of your normal daily work? Is it captured in your job description?

3. How would you describe your mentoring style?
4. Tell me about the mentoring process within the GSP? Did you work together as a team of mentors? Please explain, if yes.
5. How many hours per week did you spend on the GSP?
6. How often did you have meetings and feedback sessions with your pioneers?
7. Did you conduct training needs assessments?
8. Performance reviews – how was this conducted?
9. To what extent did the GSP have an impact on mentoring in your organisation, and why?
10. Did you receive the necessary support from your Department and the Groen Sebenza Programme to equip you to mentor the pioneers? Explain. (Admin and finance support systems. Reporting systems – how did it work?)

D. Training:

4. Do you feel that the pioneers at your institution received sufficient training to upskill them for their future jobs?
5. What role did you play in the training of pioneers?
6. Mentor workshops by GSP? Were they of any value to you? What elements could you apply in your mentoring and how did it work out?

E. Work experience

6. What opportunities did you/your institution create for the pioneers to gain valuable work experience?
7. How do you think the work experience gained by pioneers assisted them in preparation for the work environment? Give examples (story of change?).

F. Conclusion

1. Mention the main reasons for the uptake of the pioneers into jobs at your department in your view?
2. How and what was the value added by the GSP to the department?
3. What areas do you think could be improved upon from a national and provincial (HI) perspective? What can others learn from your department going forward?
4. Any final comments about your participation in the programme? Lessons learnt, outstanding experiences on personal and professional levels? How mentoring has influenced your work?

APPENDIX 3: (Questionnaire to Pioneers and example and response)

Questionnaire - Interview Schedule (for Pioneers)

Respondent no (Pioneer): Pioneer 5

Date received: 26 September 2016

Introduction

My name is Donovan Fullard, I'm a master's student at the Environmental Learning Research Centre at Rhodes University in Grahamstown. I am doing a Masters research study entitled: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution. Thank you for agreeing to participate in this interview.

Purpose

I would like to ask you some questions about your experiences as a pioneer at DENC. The purpose of my research is to identify what the learning interactions and value creation elements are that contributed to the uptake of Groen Sebenza pioneers into sustainable green jobs at your department.

Motivation

It is my wish that through this case study, we can identify the elements that made it possible for the uptake of pioneers like yourself into sustainable jobs at DENC; share the lessons learned from this case and to inform future implementation of similar models of sustainable job creation projects.

Timeline: The interview should take about 30 minutes of your time.

A. Introduction questions

9. Tell me about your background.

I grew up in Heidelberg in Gauteng, were frequent trips to open fields and the nearby Suikerbosrand Nature Reserve triggered a love for the environment. I studied Ecology at the University of Pretoria, followed by Honours and Master's degrees in Plant ecology, focussed on conservation planning and landscape connectivity.

10. Tell me about your interest in the field of study.

I am interested and passionate about ecology - how everything influences everything else.

11. What have you done before joining the GS programme? Any work experience?

I did not have a permanent job before GS. During the years before GS I was busy with my studies, and did contract and tutor work. I was still busy completing my Masters degree when I joined the GS programme.

12. How did you get to know about the GS programme?

From the advertisements on SANBI's website.

13. Tell me about the process of how you finally got involved in GS.

After I moved to Springbok I heard that they are looking for someone with a biological degree at the Springbok DENC offices. I found out who to apply to and sent in my application.

B. General support

9. Did you get the necessary support from your Host institution in terms of work space and equipment (**resources**)? Please explain.

Partly. I did get work space from the beginning, but equipment (computer and internet connection) took longer. The host institution took 6 months to provide a computer - during this time I had to use my own.

10. How did you experience the **work culture** at your Host Institution?

Most people at the host institution is passionate about conservation, and work as hard as possible to make a difference. Overworked officials sometimes get tired and negative, and administrative problems experienced sometimes caused a low morale in the office.

11. What about the day-to-day **managerial support** that was provided to you?

My supervisor always gave me clear instruction, and I always knew what was expected from me. My supervisor was also approachable, and we knew we could contact her at any time with questions or for support.

12. Did you work, got together as a **team** of pioneers? Networking opportunities? Sharing of information?

Yes. Although I were not in Kimberley with the other pioneers, we worked together well through email, and used any opportunities available to meet and catch up in Kimberley. The Groen Sebenza national induction provided further networking opportunities.

Mentoring, Training and Workplace experience

C. Mentoring:

6. Were you assigned a mentor from the start of the programme?

Yes

7. What was the **level of support** you got from your mentor?

Good support - my mentor was also my supervisor and always made sure I know what is expected from me.

8. How often did you **meet** with your mentor or had mentoring sessions?

No specified intervals - it took place when needed. I could always call my mentor.

9. What **impact** do you think, the mentoring had on you personally (with regard to areas of skills development and professional development)? Name one thing you learnt from your mentor that stands out, something you could apply in your work life?

The most important thing I learnt from my mentor is how government systems work, and how to function within the system. This is something I am still using.

10. In terms of impact are there any **positive and/or negative aspects** of the mentoring that you would like to share/highlight?

Positive - my mentor always acknowledged and praised good work. This helped me gain confidence.

D. Training:

7. What **types of training** you have attended as a pioneer? (eg on the job training, accredited short courses, informal training, etc.)

Accredited short courses

8. How many **training courses** (formal or informal) have you attended since the beginning of the GS programme?

Five

9. Explain your involvement in the drafting or development of:

- a) Personal Development Plan

Was discussed with me

- b) Needs assessment

I don't think we did this?

- c) Portfolio of Evidence

Drafted and developed by me - but after a while I forgot to keep it up to date every month

4. Have you completed any **further qualifications** since joining the GSP (eg. a professional qualification or tertiary qualification such as honours, masters etc?)

Completed several accredited short courses

I was still busy with my Master's degree when I joined GS, I finished it while working for GS.

5. What **impact** do you think has the training had on you? Are there any positive or negative aspects of the training that you would like to share? National induction as a networking and learning opportunity – any value? Can you think of examples?

Short courses was extremely useful, especially the environmental law course. The national induction did provide networking opportunities, but the most valuable for me was to get to know other GS pioneers.

E. Work experience

8. What **impact** did the work experience had on you personally?

It gave me confidence.

9. What kind of **projects or responsibilities** were you given? Did it prepare you for the work you are currently doing and how? Did you have access to all relevant resources to prepare you for the job you are in now? What were the main things you **learnt and enjoyed**?

- *communication with municipalities, IDP and SDF analysis: It is not directly related to the work I do now, but I think it is beneficial for anyone in a government department to know how municipalities' processes work,*
- *"State of the Environment" research: It prepared me for the work I do now by giving me an overview of the environmental issues in the Northern Cape.*

10. Are you enjoying your **current role** in your job? What do you think the impact of your role has on biodiversity conservation in NC? How do you feel about your involvement in the biodiversity sector going forward? Do you feel you belong here and why?

- *Yes. I think a positive impact, as there has not been a scientist focussing exclusively on the Northern Cape coastline. I think I belong here as long as I can make a positive contribution.*

11. Explain how your participation in GS has impacted on your **level of confidence** to perform in a work environment?

Groen Sebenza gave me the opportunity to gain work experience at a government institution as an intern. If it was not for Groen Sebenza I wouldn't have the knowledge about government systems I have now, and my confidence would have been much less.

12. Are there any **positive or negative aspects** of the work experiences that you would like to share/highlight? Example of how you applied what you learnt and how it improved your work?

- *Positive highlight: Mentorship - taught me how to write reports and structure documents.*
- *Negative: Not enough direct communication from GS head office at SANBI.*

F. Conclusion

1. Summarise your main lessons learnt from your participation in the programme?

How has this opportunity changed you personally and professionally? Where do you see yourself in the near future?

I have learned how to plan projects, how to submit spending authorisations and claims, how to write reports and how to communicate with other organisations. It has changed me in that I now know much more about the aspects of the biodiversity/environmental profession. My main goal for the near future is to upgrade my SACNASP status from Candidate to Professional.

2. What areas do you think could be improved upon from a national and provincial (HI) perspective?

From and national perspective - communication would have been better if SANBI communicated directly to pioneers. As it was most of the communications did not reach us.

3. Any final comments about your participation in the programme and why DENC was so successful in employing you in a permanent job? Value of the programme?

I think DENC was successful because they committed to absorbing the GS pioneers from the beginning, and then had 2 years to plan for it.

APPENDIX 4: *Transcription of interview – an example*

SIPA

540 INTERVIEWER: "Okay."

541 HENRY: "Ja, in terms of ahhm, GIS right now, even though I am not ahhm, I am not absorbed as
542 a GIS as such but I am still able to help other, other units and other ehhm colleagues' ehhm
543 when it comes to GIS." *request of something like that*

544 INTERVIEWER: "Mhh!"

545 HENRY: "Due to the training that I have from, by Mr. Oosthuizen."

546 INTERVIEWER: "And, and tell me about that. What, what, what was the kind of ehhm, is there
547 one thing that can tell me that you've learned that he taught you, or that you learned from him."

548 HENRY: "Mhh."

549 INTERVIEWER: "through this mentoring process and that you will apply in your work. What
550 would that be? Give me an example of something like that."

551 HENRY: "Ja, a very good example something that we still doing even right now is identifying
552 place that are environmental sensitive, let say a certain company or a certain agent wants to
553 develop, normally they develop these MTN, Vodacom towers. Let's say they want to develop in
554 a certain area."

555 INTERVIEWER: "Mhh!"

556 HENRY: "But, but, now, one things is that they need to know whether is ehhm is environmental
557 sensitive and how."

558 INTERVIEWER: "Mhh. "

559 HENRY: "So they normally sent request to the Environmental Officers in the department, but
560 while that requires GIS on its own. So (Paused) my colleagues normally come to me with that
561 information and I have to help them ahhm identify whether this area is an environmental
562 sensitive area or not. So that is one of, one the things he taught me."

563 INTERVIEWER: "Okay."

564 HENRY: "Ja, and I even now as we speak, even this morning."

565 INTERVIEWER: "Ahha!"

566 HENRY: "I got such a request."

567 INTERVIEWER: "Okay."

568 HENRY: "Ja."

request of something like that
request of something like that
request of something like that

SIP1

798 HENRY: "Last year March I think JA!"

799 INTERVIEWER: "So, from the Groen Sebenza you only just deed the project management
800 training?"

801 HENRY: JA! I just deed the project management training."

802 INTERVIEWER: "Tell me about that. Was it useful, was there any value to it?"

803 HENRY: JA! It was."

804 INTERVIEWER: "How could you apply it?"

805 HENRY: "It was quite useful I can say, I mean those things that we were taught, in terms of how
806 to manage project. And we, and we some, some of the examples that, that we ehhm that we
807 made were based on our organization DENC."

808 INTERVIEWER: Okay!"

809 HENRY: "Protection of species, removal of alien species, and something like that JA!"

810 INTERVIEWER: "(Silence) Okay! Ahhm, Mhh in terms of further qualifications have you been
811 involved in any further any further qualifications? Have you thought of ehhm, going to study, as
812 you said ehhm?"

813 HENRY: "Well ahhm, I haven't but I am thinking of doing my Honours next year."

814 INTERVIEWER: "Okay!"

815 HENRY: "JA! I am thinking of doing my Honours."

816 INTERVIEWER: "Why is that?"

817 HENRY: "Sorry!"

818 INTERVIEWER: "I had, I 'd say why is that?"

819 INTERVIEWER: Mhh! The thing is I would like to, to grow in my field of GIS specialization,"

820 INTERVIEWER: "Okay!"

821 HENRY: "Specialization, JA!"

822 HENRY: "Okay just, coming back to, remember there was from SANBI side there was the
823 personal development plan, and (Dragging) there is needs assessment."

824 HENRY: "JA!"

825 INTERVIEWER: "The training needs assessment and we had the portfolio evidence, those three
826 things."

APPENDIX 5: (Letter to HOD of Host institution)

01 March 2016

The Head of Department

Department of Environment and Nature Conservation

Private Bag X6102

KIMBERLEY

8300

Northern Cape

Dear Ms Gladys Botha

Permission to use DENC as a case study for my master's Green Skills Research as part of SANBI's Groen Sebenza Programme

I am Donavan Fullard, the national programme manager for the Groen Sebenza Programme implemented by the South African National Biodiversity Institute (SANBI) from 2012-2015. DENC participated in the programme as a host institution and has been identified as one of the more successful implementers within the pilot partnership programme, having appointed all the Pioneers (interns) who participated in the programme within their organisation.

I am in my second year of a master's programme (M.Ed) with the University of Rhodes's Environmental Learning and Resource Centre and my supervisor is Prof Heila Lotz-Sisitka. The proposed title of my research is: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution called the Department of Environment and Nature Conservation (DENC) in the Northern Cape Province.

The goals of my research are twofold and include the following:

3. To explore and identify what the learning and value creation elements of the Groen Sebenza programme are that led to the uptake of pioneers into green jobs during and beyond the project within DENC.
4. To develop an in-depth understanding of the factors (structurally and agentive) that enabled or constrained the uptake of pioneers into green jobs.

My main research question is:

What are the learning interactions and value creation elements that contributed to the uptake of Groen Sebenza pioneers into green jobs at the Department of Environment and Nature Conservation in the Northern Cape; and what were the enabling and constraining factors shaping the uptake of these pioneers into green jobs?

Sub questions:

4. How has mentoring, training and workplace experiences contributed to the learning, meaning making and identity of the (pioneers) interns in the programme?
5. What are the value creation elements that emerged in the implementation of the programme by DENC?
6. What are the generative mechanisms at play in influencing organisational learning for creating green jobs?

In order for me to understand and attempt to answer the above as part of a research process, I need to embark on a data collection process. I would like to conduct semi-structured interviews and focus group discussions with available staff within the department, which will include the following groups:

5. Ten (10) Pioneers (interns) that participated in the programme
6. Host institution coordinator (Ms N. Van Olmen)
7. Mentors (that participated in the programme)
8. Support staff from HR and Finance divisions (directly involved in the Implementation of the programme)

I would therefore like to request your permission to use DENC as my case study within the Groen Sebenza Programme and to have access to staff to conduct the interviews and focus group discussions during the month of March – April 2016. As part of my proposal submission, I had to sign an ethics clearance certificate in which I undertake to conduct my research in an ethical and professional manner. Upon your approval, I will also send a request or invitation to the above groups of DENC staff to participate in the research process and this letter will stipulate the ethics around respect and dignity, integrity and academic professionalism, accountability and responsibility.

It is my wish that you, as HOD of DENC will approve my request to use your institution as my case study and for me to spend two to three days to conduct the above process. The research will highlight lessons learnt for conceptualising the design and implementation of future Human Capital Development programmes and Green skills policy in the biodiversity sector. It will contribute to valuable insights into the factors that enable successful mentoring and training in the workplace. The findings of the research will also contribute towards host institutional planning around internships and mentoring. I am hoping that DENC will also benefit from this research in their planning around implementation of internship programmes of this nature. It is with this in mind that SANBI has supported my research.

Please let me know should you require additional information. I am looking forward to a positive response from your office in order for me to continue with my research planning process.

Kind regards,

A handwritten signature in black ink, appearing to read 'Donovan Fullard', with a stylized flourish at the end.

Donovan Fullard (Mr)

National programme manager Groen Sebenza (SANBI)

APPENDIX 6: Consent form - Participants



Letter of Consent

Name of researcher: Donavan Fullard
Title of study: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution.

Interview date: 10 May 2016

Brief description of the research project:

The goals of my research are twofold and include the following:

1. To explore and identify what the learning and value creation elements of the Groen Sebenza programme are that led to the uptake of pioneers into sustainable green jobs during and beyond the project within the provincial department.
2. To develop an in-depth understanding of the factors (structurally and agentive) that enabled or constrained the uptake of pioneers into sustainable green jobs.

My main research question is:

What are the learning interactions and value creation elements that contributed to the uptake of Groen Sebenza Pioneers into sustainable green jobs at a Provincial Department within the Programme; and what were the enabling and constraining factors shaping the uptake of these Pioneers into sustainable green jobs?

With this letter of consent I ask your permission to participate in the data collection process of this research which will include semi-structured interviews, focus group discussion, informant discussions, telephone and skype interviews (where possible) and document analysis. I also wish to inform you that you have the right to withdraw from the research project at any given time.

As a participant in this research project I also wish to ask your permission to audio-record the interviews and focus group discussions, the content of which I would like to use in my research report. Because the permission letter from the HOD: DENC clearly indicated that the department be kept anonymous in the report, I will also treat your contributions as such. I will share the transcript of the interview with you to reflect the discussion in an accurate and transparent manner.

Name of Participant: Vs Abekundu Signature: [Signature]

Signature of researcher: [Signature] Date: 10/05/2016

APPENDIX 7: Consent from SANBI (Director)

TO: Ms Vivian Malema (Project Director: Groen Sebenza Programme - SANBI)
FROM: Mr Donovan Fullard
DATE: 22 December 2015

Permission to do research on the Groen Sebenza Programme

Dear Ms Malema

I, Donovan Fullard, current programme manager for the SANBI Groen Sebenza Programme, wish to conduct my M.Ed research within the SANBI Groen Sebenza Programme. I envisage doing a case study within the project partnership and the details of the research is below.

Title of thesis: A case study of lessons learnt in a landscape of practice within the Groen Sebenza Programme by a Host Institution called the Department of Environment and Nature Conservation (DENC) in the Northern Cape Province.

Type of thesis: Masters half-thesis

Name of supervisor: Prof H. Lotz-Sisitka (Rhodes University)

Abstract of research to be conducted

The Department of Environment and Nature Conservation in the Northern Cape Province of South Africa has been quite successful in their implementation of the South African National Biodiversity Institute's Groen Sebenza pilot programme, as 1 of 45 host institutions. All ten (10) of the Groen Sebenza pioneers (interns) hosted have been employed in permanent jobs beyond the project. This case study-based research project will explore the various aspects of the implementation that this community of practice demonstrated to ensure the programme activities such as mentoring, training, skills development and work-place experience were offered to pioneers and how this relates to and addresses the demand side of the identified priority skills within the institution. The research will highlight lessons learnt for conceptualising the design and implementation of future Human Capital Development programmes and Green skills policy in the biodiversity sector. Its aim is to

contribute insights into the factors that enable successful mentoring and training in the workplace.

I would like to use official SANBI documents for my research such as the project proposal, annual and quarterly reports, performance assessments of pioneers, programme documents, policies and strategic documents as part of my document analysis.

I plan to share my research findings with SANBI which could be useful to the institution for future projects of a similar nature.

Kind regards,

Donavan Fullard

Student number: 15F4373

Permission is hereby granted to Mr Donavan Fullard to conduct research his M.Ed research on the SANBI Groen Sebenza Programme.



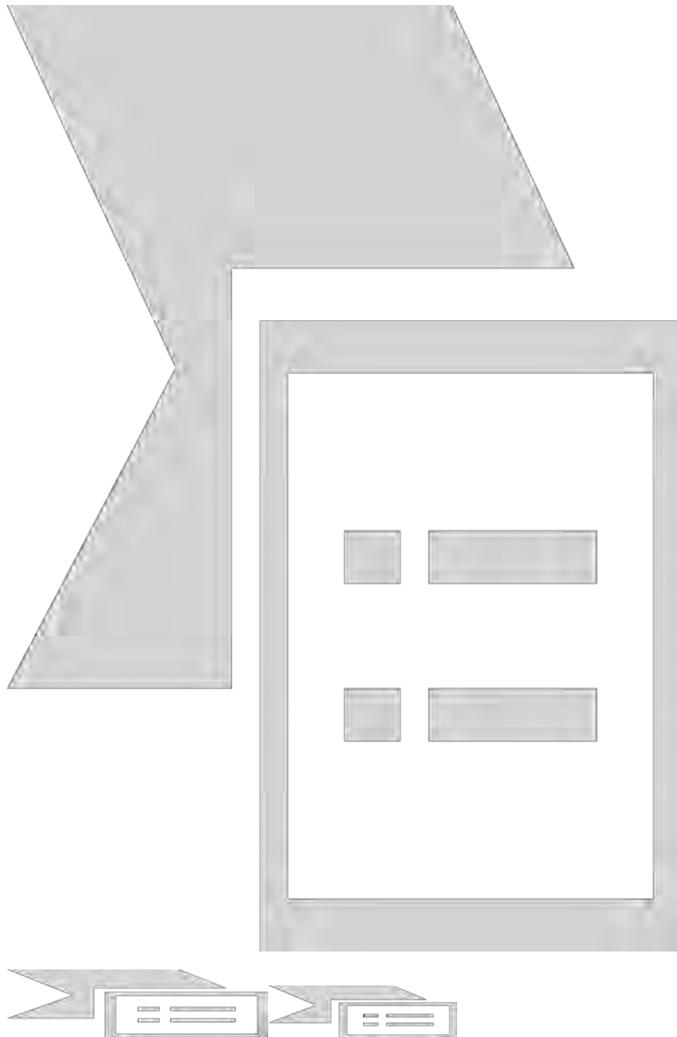
Ms V. Malema

Project Director: SANBI Groen Sebenza Programme

Date:

22/12/2015

APPENDIX 8: *Permission from Host Institution to use them as case study*



SEE APPENDIX 9 AT THE END

ADDUCTIVE ANALYSIS - VC - ALUM: OPS, SICK, FBI

<p>and activities. So she did it for self project she said okay, "I realize here are the sites. These are the interest and these are the unlicensed sites. And then she could also [do] it for the private sites".</p> <p>"Because it was different in a sense that you will sort of you will be able to map, do you understand in a sense that you would not, respond in a sense of constant. You understand? To say okay this was also, all our activity for, for this month and this is how I did it, then you are able to sort of clarify the steps to say that it lacking".</p>	<p>Commented [DM60]: Impact activity to change [redacted]</p> <p>Commented [DM61]: [redacted]</p> <p>Commented [DM62]: [redacted]</p>
<p>So these interventions helped in a sense that we were able to predict before that water volumes will be problematic. You understand? And then we also managed to sort of something the current receptors that were there.</p>	<p>Commented [DM63]: [redacted]</p> <p>Commented [DM64]: [redacted]</p> <p>Commented [DM65]: [redacted]</p>
<p>KOTK</p> <ul style="list-style-type: none"> Organisational performance Client satisfaction Student achievements and satisfaction Direct delivery of knowledge products to clients 	<p>Commented [DM66]: [redacted]</p> <p>Commented [DM67]: [redacted]</p> <p>Commented [DM68]: [redacted]</p> <p>Commented [DM69]: [redacted]</p> <p>Commented [DM70]: [redacted]</p>
<p>After she came back, she said that, because ever there we had presentation skills, when she came back from that one year she was so creative. She can just sit a whole hour and there, when she does presentations and some activity a little bit, yeah... you know she really..."</p>	<p>Commented [DM71]: [redacted]</p> <p>Commented [DM72]: [redacted]</p> <p>Commented [DM73]: [redacted]</p> <p>Commented [DM74]: [redacted]</p> <p>Commented [DM75]: [redacted]</p>
<p>"I built her confidence because that's what she needed. To build her confidence and then after that... after that week she came back and said "Ma I've got my own's laptop".</p> <p>"The focus also to it... people first because... initially because that we need to have these people so that the team body there, the human resource we need them so that they can face the mouth of the department whatever may be. We are more visible than before".</p> <p>"So the projects that we are concentrating on now, I want them to engage on, its projects that will have value back to the department".</p> <p>"Which we are doing now eventually, I am what she has learned".</p> <p>"Mentoring part should have been in my job description".</p> <p>"But today he is partially employed since the first of November".</p>	<p>Commented [DM76]: [redacted]</p> <p>Commented [DM77]: [redacted]</p> <p>Commented [DM78]: [redacted]</p> <p>Commented [DM79]: [redacted]</p> <p>Commented [DM80]: [redacted]</p> <p>Commented [DM81]: [redacted]</p> <p>Commented [DM82]: [redacted]</p> <p>Commented [DM83]: [redacted]</p> <p>Commented [DM84]: [redacted]</p> <p>Commented [DM85]: [redacted]</p> <p>Commented [DM86]: [redacted]</p> <p>Commented [DM87]: [redacted]</p> <p>Commented [DM88]: [redacted]</p> <p>Commented [DM89]: [redacted]</p> <p>Commented [DM90]: [redacted]</p> <p>Commented [DM91]: [redacted]</p> <p>Commented [DM92]: [redacted]</p> <p>Commented [DM93]: [redacted]</p> <p>Commented [DM94]: [redacted]</p> <p>Commented [DM95]: [redacted]</p> <p>Commented [DM96]: [redacted]</p> <p>Commented [DM97]: [redacted]</p> <p>Commented [DM98]: [redacted]</p> <p>Commented [DM99]: [redacted]</p> <p>Commented [DM100]: [redacted]</p>

APPENDIX 12: *Enabling and constraining factors - Pioneers*

	Pioneers	Summary
Enabling Factors	<p>Multiple training opportunities provided including accredited training.</p> <p>Relevance of training provided by the mentors.</p> <p>Empowerment of pioneers they were given opportunities for taking initiative e.g. writing memo's, submissions, projects, organising meetings, and tool development.</p> <p>Relevance of the regular mentoring sessions assisted with planning including personal development planning.</p> <p>Acknowledgement of learning as being beneficial to him/her professionally and access to further professional development opportunities.</p> <p>Individual commitment from the pioneers to go the extra mile to ensure they access and make the most of the employment opportunity</p> <p>Pioneers were part of the research and writing of the State of the Environment report process. This was tangible evidence of their achievement and contribution to the bigger picture within the department.</p> <p>Pioneers came with required and unique skills and were diverse to slot in and contribute open to be exposed to other fields in dept and grow their expertise and skills sets.</p> <p>Pioneers stayed in the programme for a longer period, a condition also made possible by the higher than normal internship stipends.</p>	<ul style="list-style-type: none"> • Multiple and relevant training opportunities were created by the mentors for the pioneers as well as allowing for access to further professional development opportunities. • Pioneers were empowered to take initiative and in so doing contribute to the bigger achievements of the organisation. • Regular mentor sessions were held, and these were relevant and assisted with planning, including personal development planning. • The quality of pioneers recruited were of a high standard and quality in terms of their individual commitment, having the rights and diverse skill sets, and being flexible and adaptable. • The retention of pioneers in the programme as they stayed the maximum period in the programme due to the higher than normal stipend paid by the programme.
Constraining Factors	<p>Lack of a driver's licence and inability to drive due to the policy of the department that pioneers were not allowed to drive, meant that mentors had to drive pioneers around.</p> <p>Vacant positions were not always easily available due to budget constraints, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts.</p>	<ul style="list-style-type: none"> • The lack of a driver's licence and inability to drive due to the policy of the department that pioneers were not allowed to drive, meant that mentors had to drive pioneers around. • Vacant positions were not always easily available due to budget constraints, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts.

	<p>In one instance a mentee was from another province which led to relocation and lack of retention.</p> <p>At times pioneers also experienced insecurity about absorption into the department.</p>	<ul style="list-style-type: none">• In one instance a mentee/pioneer was from another province which led to relocation and lack of retention in the end.• In terms of job security, at times pioneers also experienced insecurity about absorption into the department.
--	--	--

APPENDIX 13: Enabling and constraining factors - Mentors

	Mentors	Summary
<p>Enabling Factors</p>	<p>Mentors vision and interest in appointing the pioneers and encouraging them to take up personal and professional development opportunities. The targeted and visionary approach thinking strategically about the future of the department.</p> <p>Mentor's longer term vision for employing pioneers and role in supporting them to find work placements and/or other opportunities.</p> <p>Clear delegation and assignment of work tasks and support oriented towards preparation for the envisaged job role within the unit.</p> <p>Created numerous networking experiences for pioneers to create exposure for them e.g. contact with other scientists in the field</p> <p>Support provided for problem solving building and relationship building, as well as workplace culture understanding and practice. Also making provision for and accommodating the contextual circumstances of the pioneer.</p> <p>Mentoring style orientated towards inclusivity and empowerment and experiencing of mentoring as a positive experience that is integrated into work place responsibilities / formally captured within their core criteria for management (CMCs). The mentors' commitment and views of mentoring important.</p> <p>Mentors appreciating the role of mentoring as a 'journey, not a short term fix, learning curve', showing an open, flexible, adaptable attitude to mentoring practice. Mentoring seen as a holistic long term development process.</p> <p>Mentors appreciated wider support from Groen Sebenza mentoring workshops because it was interprovincial and created networking opportunities for mentors.</p> <p>Giving positive feedback and recognition to the pioneers. Mentoring seen as a rewarding process and became part of the institutional knowledge practice of the institution.</p> <p>Mentors had no fear to participate in the programme because the programme provided pioneers with the right qualification that needed mentoring and workplace experience.</p> <p>Mentors coming full circle having started as student and volunteer themselves, coming through the ranks explains the passion and required understanding. There is a history of grooming and preparing the mentees for the</p>	<p>Mentors had a targeted, visionary and long-term approach in the appointment of pioneers and played an encouraging and supporting role in their personal and professional development to ensure their employability.</p> <p>The support of mentors is a strength on multiple levels, since it is directed with clear delegation of assignments and work tasks towards the envisaged job role within the organisation. Support also included providing pioneers with problem solving and relationship building opportunities.</p> <p>The support from the HR and unit was an important enabler, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role</p> <p>Mentors created numerous networking experiences for pioneers which contributed to their professional growth and mentors expressed appreciation of the wider support from the Groen Sebenza mentoring workshops which created a space to network in the broader community of practice.</p> <p>The mentoring style of mentors is orientated towards inclusivity and empowerment and mentoring is seen as a positive experience, as well as a holistic long-term development process or journey, which indicates an open, flexible, adaptable attitude to the mentoring practice. It is seen as a rewarding process especially giving positive feedback and recognition to pioneers became part of the institutional knowledge practice of the institution.</p> <p>Mentoring is formally captured in the job description as part of their CMCs (core criteria for management) and thus integrated into workplace responsibilities.</p> <p>There is a great history and culture of mentoring, grooming and preparing young people for the world of work in the institution and many mentors have come full circle, having experienced coming through the ranks as student, volunteer and mentee as well.</p> <p>Opportunities were created for skills development for both pioneers and mentors to grow professionally and personally and mentors supported pioneers with the attainment of their drivers' licence as an example of a key requirement for the job.</p>

	<p>world of work. Mentors being a product of good mentoring themselves in the dept.</p> <p>A skills development opportunity to grow personally and professionally.</p> <p>Supported pioneers with attainment of driver's licence which is a requirement for the job.</p> <p>The support from the HR unit was important, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role.</p>	
<p>Constraining Factors</p>	<p>Mentors were not always able to meet as often as they should have due to workload, but this was mediated via the week on mentoring offered by Groen Sebenza.</p> <p>Mentor was not initially aware of the funding available for training and resources for the pioneers.</p> <p>At times mentors experienced problems with co-ordination and communication.</p> <p>Workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial departments.</p> <p>Workload of staff increased due to the mandate demands.</p> <p>Workload demands also created time based difficulties for meetings with pioneers.</p> <p>Not all mentors had a full understanding of what mentoring was about initially.</p> <p>Reporting processes were time consuming and added pressure as both internal and external reporting was required.</p>	<p>The issue of the workload of mentors impacted on many processes as constraining factors, such as mentors not being able to meet regularly to discuss programmatic issues and share information. However, this was alleviated by the week of mentoring offered by Groen Sebenza. Workload demands also created time-based difficulties for meetings with pioneers.</p> <p>The workload of staff also increased due to the provincial mandate demands and the workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial department.</p> <p>Linked to the workload of mentors, the required reporting process both internally and externally, added pressure since it was time consuming, although the Groen Sebenza programme tried to simplify the reporting process through providing templates and online formats where possible.</p> <p>Mentors experienced problems with co-ordination and communication of certain issues such as not being initially aware of the funding available for training and resources for the pioneers.</p> <p>Some mentors did not have a full understanding of the mentoring process and what it was about initially.</p>

APPENDIX 14: Enabling and Constraining factors – relationship between mentors and pioneers.

	Relations between mentors and pioneers	Summary
<p>Enabling Factors</p>	<p>Learning as belonging was a key aspect of relationship building in the organisation.</p> <p>Professional orientation and workplace culture created between mentors and pioneers</p> <p>Attitude of respect and belonging amongst mentors and pioneers.</p> <p>Pioneers were valued for their local talent and potential contributions to their own province and organisation; and their role and potential contribution was clearly communicated across the organisation.</p> <p>Appreciation of the work environment and role of mentors shown by pioneers e.g. “goeie mense hier”</p> <p>Daily contact between mentors and mentees, and an open door approach to being able to interact.</p> <p>Professionalism maintained while also being able to show empathy in the workplace.</p> <p>Thorough performance assessment/management processes that were clearly communicated with a shared understanding developed with care over time.</p> <p>The pioneers could work independently, produced high quality work that was of use to the mentors and the institution, and was also valued as such “high quality file produced by the pioneers”</p> <p>High standard setting by mentors and pioneers were held accountable. In addition, pioneers given recognition for job well done good practice instils good culture.</p> <p>Career guidance and experiences provided by mentors gave pioneers a chance of finding their niche in dept.</p> <p>Relatively flat management structure in a smaller organisation allowed for easier access, communication and relationship building.</p> <p>A positive side of pioneers not being able to drive meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.</p>	<p>The attitude of mutual respect amongst mentors and pioneers together with relationship building were key factors that created a conducive work environment with learning as belonging as a key aspect.</p> <p>The professional orientation and workplace culture created between mentors and pioneers were characterised by appreciation of the work environment by pioneers, daily contact, an open-door approach to interact and the show of empathy whilst maintaining professionalism.</p> <p>The relatively flat management structure in a smaller organisation allowed for easier access, communication and relationship building between mentors and pioneers.</p> <p>Pioneers were valued for their role, talent and potential contributions to their own organisation and province and this was clearly communicated across the organisation.</p> <p>Furthermore, they were valued because they could work independently and for their high-quality work that was beneficial to the mentors and institution for eg. the high-quality files/portfolio of evidence produced.</p> <p>Mentors set high standards for pioneers and they were held accountable and in addition they gave recognition to pioneers for a job well done, which led to the belief that good practice instils good culture.</p> <p>Thorough performance assessment/management processes that were clearly communicated with a shared understanding was developed with care over time.</p> <p>Other support mechanisms by mentors such as providing career guidance and experiences to pioneers, gave them a chance of finding their professional niche in the department. A positive side of pioneers not being able to drive meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.</p>
<p>Constraining Factors</p>	<p>Physical distances between pioneers and mentors impacted on mentoring process in some</p>	<p>The vastness of the province with offices and staff spread across the province meant that the physical</p>

	<p>instances (e.g. pioneer located in Springbok and mentor in Kimberley).</p> <p>More time could have been allocated to the initial preparations prior to the initial meetings between pioneers and mentors to allow mentors to prepare more substantively for the programmes.</p> <p>It also took time for all to fully engage with the programme initially and this required improved communication from the start.</p> <p>Performance guidelines for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.</p> <p>Sometimes power differentials were experienced between pioneers and more established scientists, which was related to perceptions of scientists as well as pioneers.</p>	<p>distances between mentors and pioneers in some instances impacted negatively on the mentoring process eg. Pioneer located in Springbok and the mentor some 800kms away in Kimberley.</p> <p>The lack of sufficient time allocated for the initial preparations prior to the initial meetings between mentors and pioneers to prepare substantively for the programme, was a challenge for many mentors.</p> <p>Better and improved communication was required from the start to fully engage with the programme initially.</p> <p>Another constraint was that the performance guidelines for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.</p> <p>The issue of power differentials was sometimes experienced between pioneers and more established scientists in particular, which was related to perceptions of scientists as well as pioneers.</p>
--	---	--

APPENDIX 15: *Enabling and Constraining factors – Institutional environment*

	Institutional Environment	Summary
Enabling Factors	<p>Networking opportunities in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice.</p> <p>Recruitment strategy prioritised recruitment of youth from local province, this supported youth to draw on local systems of social support enabling them to stay in the positions for longer.</p> <p>Recruitment strategy carefully planned based on a needs analysis which allowed for purposeful recruitment / matching of recruitment with the profiling of the position/ appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs. The need for greenskills in the province as well as career envisioning contributed to the growth needed in the department. Deliberate strategy from dept to promote careers in the environment to attract right skills and strengthen the organisation.</p> <p>Alignment between the GS programme and the province's vision to attend to youth unemployment and redress through the focus of this programme.</p> <p>Appropriate institutional resources such as computers, office space, relevant workplace tools etc. supported ease of task applications.</p>	<ul style="list-style-type: none"> • Networking opportunities created both externally and internally in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice. Internally the cross directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences. • Recruitment strategy was both strategic and effective to attract the right skills. The prioritised focus was on recruitment of local graduates which supported youth to draw on local systems of social support and enabling them to stay in positions longer. The strategy was also deliberately planned based on a needs analysis which allowed for purposeful recruitment or matching it with profiling of the position/appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs and strengthening the organisation. • The external support provided and strong partnership with the SANBI Groen Sebenza programme as well as the structured nature of the programme and support was valued, e.g the appointment of the regional coordinator position improved communication amongst mentors as well as the funding for training

<p>Bursaries were made available for further studies as part of an incentive scheme.</p> <p>External support and strong partnership provided by the wider Groen Sebenza / SANBI programme and the structured nature of the support was valued e.g. the regional coordinator position improved communication amongst mentors. Also, the training funding made available allowed for two sessions per year.</p> <p>The induction programme was beneficial to pioneers giving them an overview of the dept and its different programmes.</p> <p>Institution has experienced mentors and coaches and a previous culture and history of successful mentoring in the department; with mentors having accredited qualification in mentoring and coaching (i.e. previous investment in staff capacity building for mentoring), and a tradition of sharing experiences.</p> <p>Mentoring role is formally captured in the key performance criteria for mentors (core criteria for management (CMCs)), enabling the mentoring role to be meaningfully integrated into the mentor's work roles, with adequate administration support provided to all.</p> <p>Professional Development Planning tools used to determine training needs of the pioneers. All other mentoring tools and documents such as portfolio of evidence in place as good practice.</p> <p>Proactive leadership and the support of senior management that could be objective and see the value to participate in this programme was crucial. Buy in, ownership and support from the HOD was crucial as well as the senior leadership's ability to see the potential of the programme to respond to the challenges and needs of the province and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs.</p> <p>Acknowledgement of the programme at a political level by the MEC and reported and promoted at the highest level at the economic cluster, portfolio committee in provincial legislature.</p> <p>Operational mechanisms put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co-operation between HR, finance and professional services. GS was located and coordinated within the programmes/core functions and not HR, ensured greater buy-in.</p> <p>Operational budget made available to support and implement projects was a positive.</p>	<p>made available allowed for two sessions per year.</p> <ul style="list-style-type: none"> • The alignment of the GS programme's focus with the provincial department's vision to address youth unemployment and redress contributed significantly to the political buy-in and support at the highest level which resulted in the acknowledgement of the programme by the MEC and reported and promoted at the highest level at the economic cluster, portfolio committee in provincial legislature. • Proactive leadership, ownership and the support of senior management including the Head of Department, that could be objective and see the value to participate in this programme was crucial. This as well as the senior leadership's ability to see the potential of the programme to respond to the challenges and needs of the province and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs, was a key enabler. • Other support mechanisms put in place i.e provision of appropriate institutional resources (such as computers, office space and relevant workplace tools to support the ease of task applications), bursaries, induction programmes, operational budget support i.t.o finance and HR matters, were all enablers that supported the programme implementation. • The culture and history of strong and successful mentoring in organisation and good practice models such as mentoring captured in KPAs and integrated in work roles, mentors with accredited qualification in mentoring and coaching, mentoring tools and documents in place. • Workforce comprise of a huge amount of experienced and qualified senior staff with long service within the organisation and the opportunities for growth in the department who rewards performance and provide incentives for career growth are indeed factors that contribute to an enabling environment. • Good management systems/operational mechanisms and workplace practices put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co-operation between HR, finance and professional services. The GS programme was located and coordinated within the programmes/core functions and not HR, and this ensured greater buy-in.
--	--

	<p>Opportunities for growth in the department who rewards performance, providing incentives to grow your career.</p> <p>Cross directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences.</p> <p>Huge amount of experience and long service of senior staff within the department.</p>	
<p>Constraining Factors</p>	<p>Funding constraints influenced the organisations' ability to continue with the internship programme, despite its proven success.</p> <p>Initial plans to integrate with the local municipalities did not materialise as planned due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more.</p> <p>There were also issues raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities which was related to access to information and flow of arrangements.</p> <p>Policy of the department related to allowing drives to use vehicles.</p> <p>Despite good arrangements and systems in principle, at times there were problems with procurement of goods.</p> <p>The vast scale of the province was a constraint that created a need for decentralisation of the strategy which also had the adverse effect of affecting capacity as this could not be evenly spread.</p> <p>Province also experienced capacity constraints in the institution.</p> <p>Mentoring was not initially captured in job descriptions, this was introduced after a while.</p> <p>Issues of retention of people in the province from elsewhere.</p> <p>Budget not keeping up with the staffing demands and at times not adequate for the vastness of the province (physical distances) causing staff to become office bound.</p> <p>Distances and times required for travelling in the vast province also caused delays and difficulties.</p> <p>In some outlying areas there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting communications.</p> <p>Succession planning in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges.</p>	<ul style="list-style-type: none"> • Financial constraints for sustainability since it influenced the organisations' ability to continue with the internship programme, despite its proven success. • Integration with local municipalities was initially planned but did not materialise due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more. • Issues of access to information, flow of arrangements and procurement were raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities. • Driving of vehicles policy was a big hindrance and frustration to both mentors and pioneers. • Vastness of the province was a constraint that created a need for decentralisation of the staff which also had the adverse effect of affecting capacity as this could not be evenly spread. The budget in relation to staffing demands/capacity constraints were not adequate for the vastness of the province (physical distances) causing staff to become office bound. • Related to capacity constraints were the retention of people in the province from elsewhere. In addition, the distances and times required for travelling also caused delays and difficulties. • ICT support in some outlying areas as well as head office at times, there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting effective communications. • Succession planning in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges. Staff turnover of senior people influenced continuity to drive and initiate the programme into the future.

	Staff turnover at senior level influenced continuity to drive and initiate the programme into the future.	
--	---	--

APPENDIX 16: *Emergent properties - Mentors*

Factors	MENTORS – Personal, Cultural and Structural Emergent Properties	Summary	PEP, CEP, SEP
Enabling Factors	<p>Mentors vision and interest in appointing the pioneers and encouraging them to take up personal and professional development opportunities. The targeted and visionary approach thinking strategically about the future of the department.</p> <p>Mentor's longer term vision for employing pioneers and role in supporting them to find work placements and/or other opportunities.</p> <p>Clear delegation and assignment of work tasks and support oriented towards preparation for the envisaged job role within the unit.</p> <p>Created numerous networking experiences for pioneers to create exposure for them e.g. contact with other scientists in the field</p> <p>Support provided for problem solving building and relationship building, as well as workplace culture understanding and practice. Also making provision for and accommodating the contextual circumstances of the pioneer.</p> <p>Mentoring style orientated towards inclusivity and empowerment and experiencing of mentoring as a positive experience that is integrated into work place responsibilities / formally captured within their core criteria for management (CMCs). The mentors' commitment and views of mentoring important.</p> <p>Mentors appreciating the role of mentoring as a 'journey, not a short-term fix, learning curve', showing an open, flexible, adaptable attitude to mentoring practice. Mentoring seen as a holistic long term development process.</p> <p>Mentors appreciated wider support from Groen Sebenza mentoring workshops because it was interprovincial and created networking opportunities for mentors.</p> <p>Giving positive feedback and recognition to the pioneers. Mentoring seen as a rewarding process and became part of the institutional knowledge practice of the institution.</p>	<p>Mentors had a targeted, visionary and long-term approach in the appointment of pioneers and played an encouraging and supporting role in their personal and professional development to ensure their employability.</p> <p>The support of mentors is a strength on multiple levels, since it is directed with clear delegation of assignments and work tasks towards the envisaged job role within the organisation. Support also included providing pioneers with problem solving and relationship building opportunities.</p> <p>The support from the HR and unit was an important enabler, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role</p> <p>Mentors created numerous networking experiences for pioneers which contributed to their professional growth and mentors expressed appreciation of the wider support from the Groen Sebenza mentoring workshops which created a space to network in the broader community of practice.</p> <p>The mentoring style of mentors is orientated towards inclusivity and empowerment and mentoring is seen as a positive experience, as well as a holistic long-term development process or journey, which indicates an open, flexible, adaptable attitude to the mentoring practice. It is seen as a rewarding process especially giving positive feedback and recognition to pioneers became part of the institutional knowledge practice of the institution.</p> <p>Mentoring is formally captured in the job description as part of their CMCs (core criteria for management) and thus integrated into workplace responsibilities.</p> <p>There is a great history and culture of mentoring, grooming and preparing young people for the world of work in the institution and many mentors have come full circle, having experienced coming through the ranks as student, volunteer and mentee as well.</p> <p>Opportunities were created for skills development for both pioneers and mentors to grow professionally and personally and mentors supported pioneers with the attainment of their drivers' licence as an example of a key requirement for the job.</p>	<p>PEP, CEP, SEP</p> <p>PEP</p> <p>PEP, CEP</p> <p>CEP</p> <p>PEP, CEP</p> <p>PEP, CEP</p> <p>SEP</p> <p>CEP</p> <p>PEP</p>

	<p>Mentors had no fear to participate in the programme because the programme provided pioneers with the right qualification that needed mentoring and workplace experience.</p> <p>Mentors coming full circle having started as student and volunteer themselves, coming through the ranks explains the passion and required understanding. There is a history of grooming and preparing the mentees for the world of work. Mentors being a product of good mentoring themselves in the dept.</p> <p>A skills development opportunity to grow personally and professionally.</p> <p>Supported pioneers with attainment of driver's licence which is a requirement for the job.</p> <p>The support from the HR unit was important, but the professional positions and experience of the administrators within the professional units was seen to be enabling of the mentoring role.</p>		
	<p><i>Relates mainly to the empowerment of pioneers through the support given and learning opportunities created by mentors as well as the style of mentoring led to creation of personal emergent properties. Also assisted with the development of relations between mentors and pioneers.</i></p>		
<p>Constraining Factors</p>	<p>Mentors were not always able to meet as often as they should have due to workload, but this was mediated via the week on mentoring offered by Groen Sebenza.</p> <p>Mentor was not initially aware of the funding available for training and resources for the pioneers.</p> <p>At times mentors experienced problems with co-ordination and communication.</p> <p>Workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial departments.</p> <p>Workload of staff increased due to the mandate demands.</p> <p>Workload demands also created time-based difficulties for meetings with pioneers.</p>	<p>The issue of the workload of mentors impacted on many processes as constraining factors, such as mentors not being able to meet regularly to discuss programmatic issues and share information. However, this was alleviated by the week of mentoring offered by Groen Sebenza. Workload demands also created time-based difficulties for meetings with pioneers.</p> <p>The workload of staff also increased due to the provincial mandate demands and the workload of the mentors was at times very high which indicates a lack of capacity in the science and research units in the provincial department.</p> <p>Linked to the workload of mentors, the required reporting process both internally and externally, added pressure since it was time consuming, although the Groen Sebenza programme tried to simplify the reporting process through providing templates and online formats where possible.</p> <p>Mentors experienced problems with co-ordination and communication of certain issues such as not being initially aware of the funding available for training and resources for the pioneers.</p>	<p>PEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p>

	<p>Not all mentors had a full understanding of what mentoring was about initially.</p> <p>Reporting processes were time consuming and added pressure as both internal and external reporting was required.</p>	<p>Some mentors did not have a full understanding of the mentoring process and what it was about initially.</p>	<p>PEP</p>
<p><i>The constraining factors are mainly related to the structural emergent properties since it speaks to the institutional elements impacting on the mentors as a key stakeholder in the CoP.</i></p>			

APPENDIX 17: *Emergent properties - Pioneers*

Factors	PIONEERS - Personal, Cultural and Structural Emergent Properties	Summary	PEP, CEP, SEP
Enabling Factors	<p>Multiple training opportunities provided including accredited training.</p> <p>Relevance of training provided by the mentors.</p> <p>Empowerment of pioneers they were given opportunities for taking initiative e.g. writing memo's, submissions, projects, organising meetings, and tool development.</p> <p>Relevance of the regular mentoring sessions assisted with planning including personal development planning.</p> <p>Acknowledgement of learning as being beneficial to him/her professionally and access to further professional development opportunities.</p> <p>Individual commitment from the pioneers to go the extra mile to ensure they access and make the most of the employment opportunity</p> <p>Pioneers were part of the research and writing of the State of the Environment report process. This was tangible evidence of their achievement and contribution to the bigger picture within the department.</p> <p>Pioneers came with required and unique skills and were diverse to slot in and contribute open to be exposed to other fields in dept and grow their expertise and skills sets.</p> <p>Pioneers stayed in the programme for a longer period, a condition also made possible by the higher than normal internship stipends.</p>	<ul style="list-style-type: none"> Multiple and relevant training opportunities were created by the mentors for the pioneers as well as allowing for access to further professional development opportunities. Pioneers were empowered to take initiative and in so doing contribute to the bigger achievements of the organisation. Regular mentor sessions were held, and these were relevant and assisted with planning, including personal development planning. The quality of pioneers recruited were of a high standard and quality in terms of their individual commitment, having the rights and diverse skill sets, and being flexible and adaptable. The retention of pioneers in the programme as they stayed the maximum period in the programme due to the higher than normal stipend paid by the programme. 	<p>PEP</p> <p>PEP</p> <p>PEP</p> <p>PEP</p> <p>SEP</p>
	<i>Relates mostly to empowerment of pioneers and learning and professional development opportunities provided and created which lead to the strong relations between pioneers and mentors and ultimately the retention of pioneers within the organisation.</i>		
Constraining Factors	<p>Lack of a driver's licence and inability to drive due to the policy of the department that pioneers were not allowed to drive, meant that mentors had to drive pioneers around.</p>	<ul style="list-style-type: none"> The lack of a driver's licence and inability to drive due to the policy of the department that pioneers were not allowed to drive, meant that mentors had to drive pioneers around. 	<p>PEP, SEP</p> <p>SEP</p>

	<p>Vacant positions were not always easily available due to budget constraints, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts.</p> <p>In one instance a mentee was from another province which led to relocation and lack of retention.</p> <p>At times pioneers also experienced insecurity about absorption into the department.</p>	<ul style="list-style-type: none"> • Vacant positions were not always easily available due to budget constraints, and mentors had to undertake extra efforts to motivate for positions in the organisation against vacant posts. • In one instance a mentee/pioneer was from another province which led to relocation and lack of retention in the end. • In terms of job security, at times pioneers also experienced insecurity about absorption into the department. 	<p>SEP</p> <p>PEP</p>
<p><i>These constraining factors relate mostly to the structural elements of the institution and therefore the strong occurrence of structural emergent properties.</i></p>			

APPENDIX 18: *Emergent properties – Relationship between mentors and pioneers*

Factors	RELATIONS between Mentors and Pioneers - Personal, Cultural and Structural Emergent Properties	Summary	PEP, CEP, SEP
Enabling Factors	<p>Learning as belonging was a key aspect of relationship building in the organisation.</p> <p>Professional orientation and workplace culture created between mentors and pioneers</p> <p>Attitude of respect and belonging amongst mentors and pioneers.</p> <p>Pioneers were valued for their local talent and potential contributions to their own province and organisation; and their role and potential contribution was clearly communicated across the organisation.</p> <p>Appreciation of the work environment and role of mentors shown by pioneers e.g. "goeie mense hier"</p> <p>Daily contact between mentors and mentees, and an open door approach to being able to interact.</p> <p>Professionalism maintained while also being able to show empathy in the workplace.</p> <p>Thorough performance assessment/management processes that were clearly communicated with a shared understanding developed with care over time.</p> <p>The pioneers could work independently, produced high quality work that was of use to the mentors and the institution, and was also valued as such "high quality file produced by the pioneers"</p> <p>High standard setting by mentors and pioneers were held accountable. In addition, pioneers given recognition for job well done - good practice instils good culture.</p> <p>Career guidance and experiences provided by mentors gave pioneers a chance of finding their niche in dept.</p>	<p>The attitude of mutual respect amongst mentors and pioneers together with relationship building were key factors that created a conducive work environment with learning as belonging as a key aspect.</p> <p>The professional orientation and workplace culture created between mentors and pioneers were characterised by appreciation of the work environment by pioneers, daily contact, an open-door approach to interact and the show of empathy whilst maintaining professionalism.</p> <p>The relatively flat management structure in a smaller organisation allowed for easier access, communication and relationship building between mentors and pioneers.</p> <p>Pioneers were valued for their role, talent and potential contributions to their own organisation and province and this was clearly communicated across the organisation. Furthermore, they were valued because they could work independently and for their high-quality work that was beneficial to the mentors and institution for eg. the high-quality files/portfolio of evidence produced.</p> <p>Mentors set high standards for pioneers and they were held accountable and in addition they gave recognition to pioneers for a job well done, which led to the belief that good practice instils good culture.</p> <p>Thorough performance assessment/management processes that were clearly communicated with a shared understanding was developed with care over time.</p> <p>Other support mechanisms by mentors such as providing career guidance and experiences to pioneers, gave them a chance of finding their professional niche in the department. A positive side of pioneers not being able to drive meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.</p>	<p>PEP, CEP, SEP</p> <p>PEP, CEP</p> <p>CEP</p> <p>SEP</p> <p>PEP</p> <p>PEP</p> <p>SEP</p> <p>PEP, CEP</p>

	<p>Relatively flat management structure in a smaller organisation allowed for easier access, communication and relationship building.</p> <p>A positive side of pioneers not being able to drive meant that they were exposed to many forums and meetings and were able to connect with a wider range of people as they had to travel along with the mentors.</p>		
<p><i>Issues of empowerment and relationship building highlighted here as well as issue of workplace/organisational culture.</i></p>			
<p>Constraining Factors</p>	<p>Physical distances between pioneers and mentors impacted on mentoring process in some instances (e.g. pioneer located in Springbok and mentor in Kimberley).</p> <p>More time could have been allocated to the initial preparations prior to the initial meetings between pioneers and mentors to allow mentors to prepare more substantively for the programmes.</p> <p>It also took time for all to fully engage with the programme initially and this required improved communication from the start.</p> <p>Performance guidelines for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.</p> <p>Sometimes power differentials were experienced between pioneers and more established scientists, which was related to perceptions of scientists as well as pioneers.</p>	<p>The vastness of the province with offices and staff spread across the province meant that the physical distances between mentors and pioneers in some instances impacted negatively on the mentoring process eg. Pioneer located in Springbok and the mentor some 800kms away in Kimberley.</p> <p>The lack of sufficient time allocated for the initial preparations prior to the initial meetings between mentors and pioneers to prepare substantively for the programme, was a challenge for many mentors.</p> <p>Better and improved communication was required from the start to fully engage with the programme initially.</p> <p>Another constraint was that the performance guidelines for pioneers had to be developed in situ, as none were in place at the start, thus required adapting the provincial system.</p> <p>The issue of power differentials was sometimes experienced between pioneers and more established scientists in particular, which was related to perceptions of scientists as well as pioneers.</p>	<p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p> <p>CEP</p>
<p><i>Factors strongly relate to structural or institutional issues related to empowerment and retention.</i></p>			

APPENDIX 19: *Emergent properties – Institutional environment*

Factors	INSTITUTIONAL ENVIRONMENT - Personal, Cultural and Structural Emergent Properties	Summary	PEP, CEP, SEP
Enabling Factors	<p>Networking opportunities in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice.</p> <p>Recruitment strategy prioritised recruitment of youth from local province, this supported youth to draw on local systems of social support enabling them to stay in the positions for longer.</p> <p>Recruitment strategy carefully planned based on a needs analysis which allowed for purposeful recruitment / matching of recruitment with the profiling of the position/ appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs. The need for greenskills in the province as well as career envisioning contributed to the growth needed in the department. Deliberate strategy from dept to promote careers in the environment to attract right skills and strengthen the organisation.</p> <p>Alignment between the GS programme and the province's vision to attend to youth unemployment and redress through the focus of this programme.</p> <p>Appropriate institutional resources such as computers, office space, relevant workplace tools etc. supported ease of task applications.</p> <p>Bursaries were made available for further studies as part of an incentive scheme.</p> <p>External support and strong partnership provided by the wider Groen Sebenza / SANBI programme and the structured nature of the support was valued e.g. the regional coordinator position improved communication amongst mentors. Also, the training funding made available allowed for two sessions per year.</p> <p>The induction programme was beneficial to pioneers giving them an overview of the dept and its different programmes.</p>	<ul style="list-style-type: none"> Networking opportunities created both externally and internally in the wider Groen Sebenza programme and provincial structures, as well use of social media allowed for interaction with other pioneers in other organisations in the landscape of practice. Internally the cross directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences. Recruitment strategy was both strategic and effective to attract the right skills. The prioritised focus was on recruitment of local graduates which supported youth to draw on local systems of social support and enabling them to stay in positions longer. The strategy was also deliberately planned based on a needs analysis which allowed for purposeful recruitment or matching it with profiling of the position/appointment of quality pioneers against previously vacant positions alleviating the workload of mentors, making the pioneer roles relevant to the organisation, facilitating absorption of pioneers into jobs and strengthening the organisation. The external support provided and strong partnership with the SANBI Groen Sebenza programme as well as the structured nature of the programme and support was valued, e.g the appointment of the regional coordinator position improved communication amongst mentors as well as the funding for training made available allowed for two sessions per year. The alignment of the GS programme's focus with the provincial department's vision to address youth unemployment and redress contributed significantly to the political buy-in and support at the highest level which resulted in the acknowledgement of the programme by the MEC and reported and promoted at the highest level at the economic cluster, portfolio committee in provincial legislature. Proactive leadership, ownership and the support of senior management including the Head of Department, that could be objective and see the value to participate in this programme was crucial. This as well as the senior leadership's ability to see the potential of the programme to respond to the challenges and needs of the province and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs, was a key enabler. Other support mechanisms put in place i.e provision of appropriate institutional resources (such as computers, office space and relevant workplace tools to support the ease of task applications), bursaries, induction programmes, operational budget support 	<p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p>

	<p>Institution has experienced mentors and coaches and a previous culture and history of successful mentoring in the department; with mentors having accredited qualification in mentoring and coaching (i.e. previous investment in staff capacity building for mentoring), and a tradition of sharing experiences.</p> <p>Mentoring role is formally captured in the key performance criteria for mentors (core criteria for management (CMCs)), enabling the mentoring role to be meaningfully integrated into the mentor's work roles, with adequate administration support provided to all.</p> <p>Professional Development Planning tools used to determine training needs of the pioneers. All other mentoring tools and documents such as portfolio of evidence in place as good practice.</p> <p>Proactive leadership and the support of senior management that could be objective and see the value to participate in this programme was crucial. Buy in, ownership and support from the HOD was crucial as well as the senior leadership's ability to see the potential of the programme to respond to the challenges and needs of the province and the ability to conceptualise the successful implementation thereof, as well as the commitment from the start to absorb the pioneers into permanent jobs.</p> <p>Acknowledgement of the programme at a political level by the MEC and reported and promoted at the highest level at the economic cluster, portfolio committee in provincial legislature.</p> <p>Operational mechanisms put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co operation between HR, finance and professional services. GS was located and coordinated within the programmes/core functions and not HR, ensured greater buy in.</p> <p>Operational budget made available to support and implement projects was a positive.</p> <p>Opportunities for growth in the department who rewards performance, providing incentives to grow your career.</p>	<p>i.t.o finance and HR matters, were all enablers that supported the programme implementation.</p> <ul style="list-style-type: none"> The culture and history of strong and successful mentoring in organisation and good practice models such as mentoring captured in KPAs and integrated in work roles, mentors with accredited qualification in mentoring and coaching, mentoring tools and documents in place. Workforce comprise of a huge amount of experienced and qualified senior staff with long service within the organisation and the opportunities for growth in the department who rewards performance and provide incentives for career growth are indeed factors that contribute to an enabling environment. Good management systems/operational mechanisms and workplace practices put in place to ensure successful implementation and adaptability to mix the existing and required mechanisms and procedures to make the programme work, including via the procurement system, and co-operation between HR, finance and professional services. The GS programme was located and coordinated within the programmes/core functions and not HR, and this ensured greater buy-in. 	<p>CEP</p> <p>SEP</p> <p>SEP</p>
--	---	---	----------------------------------

	<p>Cross directorate experience and exposure was a good strategy to give pioneers holistic training and knowledge sharing experiences.</p> <p>Huge amount of experience and long service of senior staff within the department.</p>		
	<i>Institutional issues highlighted here that relate to structural emergent properties mostly, which also highlight empowerment and retention issues within the institution.</i>		
Constraining Factors	<p>Funding constraints influenced the organisations' ability to continue with the internship programme, despite its proven success.</p> <p>Initial plans to integrate with the local municipalities did not materialise as planned due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more.</p> <p>There were also issues raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities which was related to access to information and flow of arrangements.</p> <p>Policy of the department related to allowing drives to use vehicles.</p> <p>Despite good arrangements and systems in principle, at times there were problems with procurement of goods.</p> <p>The vast scale of the province was a constraint that created a need for decentralisation of the strategy which also had the adverse effect of affecting capacity as this could not be evenly spread.</p> <p>Province also experienced capacity constraints in the institution.</p> <p>Mentoring was not initially captured in job descriptions, this was introduced after a while.</p> <p>Issues of retention of people in the province from elsewhere.</p> <p>Budget not keeping up with the staffing demands and at times not adequate for the vastness of the province (physical distances) causing staff to become office bound.</p>	<ul style="list-style-type: none"> • Financial constraints for sustainability since it influenced the organisations' ability to continue with the internship programme, despite its proven success. • Integration with local municipalities was initially planned but did not materialise due to complexities within the municipal structures including financial issues, as well as issues related to degrading equipment, efficacy of services and more. • Issues of access to information, flow of arrangements and procurement were raised by pioneers around delays with salaries, access to study loans and inconsistencies around training opportunities. • Driving of vehicles policy was a big hindrance and frustration to both mentors and pioneers. • Vastness of the province was a constraint that created a need for decentralisation of the staff which also had the adverse effect of affecting capacity as this could not be evenly spread. The budget in relation to staffing demands/capacity constraints were not adequate for the vastness of the province (physical distances) causing staff to become office bound. • Related to capacity constraints were the retention of people in the province from elsewhere. In addition, the distances and times required for travelling also caused delays and difficulties. • ICT support in some outlying areas as well as head office at times, there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting effective communications. • Succession planning in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges. Staff turnover of senior people influenced continuity to drive and initiate the programme into the future. 	<p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP, PEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p> <p>SEP</p>

	<p>Distances and times required for travelling in the vast province also caused delays and difficulties.</p> <p>In some outlying areas there were significant breaks in IT support and access to ICT networks, telephonic connections, affecting communications.</p> <p>Succession planning in the department resulted in a large gap between more experienced staff and new staff (i.e. pioneers), also affected by general transformation challenges.</p> <p>Staff turnover at senior level influenced continuity to drive and initiate the programme into the future.</p>		
<p><i>Related to structural issues mostly within the institution.</i></p>			

APPENDIX 20: Letter of commitment of placement in permanent jobs from host institution



the denc

Department of
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag 201202, Kimberley, 8001, Republic of South Africa, Tel: 053 827 7300, Fax: 053 827 7228

Eng: N van Oers

Ref: HB 1.1.1

Date: 5 June 2015

Acting Chief Executive Officer
South African Biodiversity Institute (SANBI)
Private Bag X101
Pretoria
0001

Dear Ms Mbezvo,

COMMITMENT FOR PLACEMENT OF GROEN SEBENZA PIONEERS: DEPARTMENT OF ENVIRONMENT AND NATURE CONSERVATION, NORTHERN CAPE

In response to your letter on National Treasury's intention to withhold funds and termination of the Groen Sebenza Programme dated 2 June 2015.

This letter serves to confirm that 8 out of the 10 pioneers that have been hosted at the Northern Cape Department of Environment and Nature Conservation have been placed in a post at the department or have found permanent employment outside the department. The remaining 2 pioneers that the department is hosting will be placed into permanent positions in the department during 2015, namely:

Mr H Mtshambu – Climate change officer
Mrs L Geldenhuys (Fourie) – Research and development support

I trust that the above is in order.

Kind regards

**D VAN HEERDEN (Mr)
HEAD OF DEPARTMENT: ENVIRONMENT AND NATURE CONSERVATION**

APPENDIX 21: Photographs of interactions within the COP.



