MENTORING AS SOCIAL LEARNING VALUE CREATION IN TWO SOUTH AFRICAN ENVIRONMENTAL ORGANISATIONS: A SOCIAL REALIST ANALYSIS

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ABSTRACT

South Africa is facing overwhelming crises of educational quality, record rates of unemployment (especially amongst youth) and environmental issues and risks, further exacerbated by the Covid-19 pandemic. Environmental education research that addresses these challenges is critical to ensuring that future generations thrive in a warming climate. South Africa needs environmental leaders; we therefore need to understand and explore the possibilities of mentoring young professionals in environmental organisations in South Africa. Several initiatives have been developed to contribute to the mentoring of young professionals in South African environmental organisations.

This study drew on a critical realist ontology, social realist meta-theory and domain specific theory on mentoring and evaluation to explore mentoring as a value creating proposition in two environmental organisations in South Africa that were part of the national Groen Sebenza youth employment creation programme which had a strong focus on mentoring. To strengthen conceptual analytical tools on mentoring, I undertook an immanent critique of domain specific mentoring theory to develop a more appropriate foundation for mentoring theory in the environmental sector that was not subject to the historical influence of human capital theory only (which has tended to dominate the field's literature). I then developed in-depth understanding of mentoring in two case study contexts, namely a non-profit environmental organisation and an environmental consulting company, using qualitative research approaches that included contextual profiling, case study research and mirror data workshops. Analytically, I considered the case data drawing on the value creation evaluation framework of Wenger-Trayner and Wenger-Trayner (2014) which itself was developing as an analytical framework as the study developed. I strengthened the analytical framework with social realist interpretations drawing on Archer (1995). This offered me a way of developing an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring, with a view to inform human capacity development initiatives that support mentoring in the environment sector.

It was possible to explain the value creation possibilities of mentoring within two case study environmental organisations through considering mentoring as a social learning process of value creation and this overcame some of the shortfalls identified in other early learning theories as well as theories of mentoring. The research revealed how mentoring can provide a

value creation social learning trajectory for unemployed youth. A social realist perspective explained how young professionals expanded their primary agency, through full participation in workplace communities of practice, to find their identity as corporate agents in the workplace with their mentors. In this research, Social Realist ontology, theory and methodology was able to achieve what Human Capital Theory could not and provided an account of the interplay of structure, culture and agency over time, through emergent properties and the separation of structure and agency. Thus, it was possible to avoid conflation and the limitation of theory of the present tense, with a deeper, ontologically robust explanation of mentoring as social learning and social change and a social realist orientation to human capacity development.

South Africa has a history of oppression, inequality and injustice and requires social processes that are reflexive, critical, emancipatory and transformative. Therefore, this research required theory and approaches that could explain mentoring of unemployed youth, as a common good initiative for a more just and sustainable society. As shown in this study, a Social Realist approach can uncover the underlying generative mechanisms and make the implicit more explicit in research, policy and strategy, offering a robust alternative to the tenets of Human Capital Theory that have driven much mentoring research in South Africa and elsewhere to date.

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LIST OF ACRONYMS

B-BBEE	Broad-Based Black Economic Empowerment
BHCDS	Human Capital Development Strategy for the Biodiversity Sector
C2005	Curriculum 2005
CAPE	Cape Action for People and the Environment
CDP	Carbon Disclosure Project
CEP	Cultural Emergent Property
CHAT	Cultural Historical Activity Theory
CoP	Community of Practice
COVID-19	Coronavirus disease
DBSA	Development Bank of South Africa
DEA	Department of Environmental Affairs
ELRC	Environmental Learning Research Centre
ESSP	Environmental Sector Skills Plan
GROW	Goal, Reality, Options and Way
HCT	Human Capital Theory
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
LoP	Landscape of Practice
LPP	Legitimate Peripheral Participation
NICE	Needs, Interests, Competencies and Expectations
NPO	Non-profit organisation
OBE	Outcomes Based Education
PEP	Personal Emergent Property
SANBI	South African National Biodiversity Institute
SEP	Structural Emergent Property
UNEP	The United Nations Environment Programme
UNESCO	The United Nations Educational, Scientific and Cultural Organization
WHO	World Health Organisation
WRC	Water Research Commission
WWF-SA	World Wide Fund for Nature South Africa

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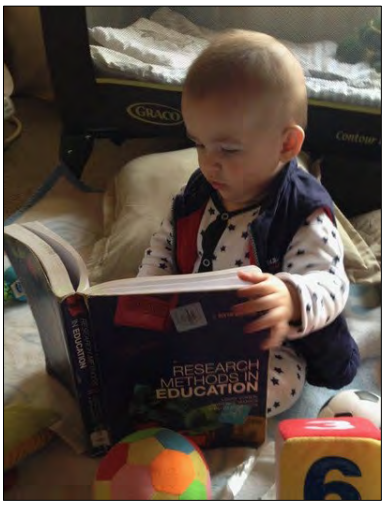
Thank you to my family and friends. My Dad fought many health battles during this research, including Stage 4 cancer and he continues to embrace life and strives to make a positive difference in the world. In shaping me to be who I am, I hope that I will contribute to his efforts. My Mum, the rock in our family who cares for everyone as an outstanding health professional, wife, mother and grandmother often dropped everything when I needed her, travelling to Rhodes and babysitting so that I could do this. My parents in-law and siblings were always there to help, love and support us. Tshengisile Florence Bhengu was Gogo to my children and mother figure to us as we learnt how to keep babies happy while working and studying/researching. My fabulous Granny who passed just before the end of the journey and left me with her knowledge and appreciation of the simple and meaningful aspects of life – she looked forward to dancing and boasting about this first PhD in her family.

My partner in life, Björn. Together we survived seven house moves, two babies, four jobs, a diploma and a career change during the time of this PhD and came out stronger. Thank you for your unwavering belief in me and dedication to our family.

My children. Kyle you were born when this PhD was born (proposal) and Juli you came along for the ride somewhere in the middle. With me travelling, in lectures, reading, analysing data, the process was messier, longer and so much more difficult than I expected or planned, but I am grateful that you were there to give me perspective and a love that I could never have imagined. It took a village to raise these children and this PhD.



Dedication

For the young South Africans who inspire me, including my children

CHAPTER ONE:
INTRODUCTION TO MENTORING IN ENVIRONMENTAL ORGANISATIONS IN SOUTH AFRICA

1.1 Introduction

In 2018, young South African leader, Ndoni Mcunu[1] wrote an article called 'A personal journey sheds light on why there are so few black women in science':

> So what's holding young black women back? The giant leap from high school to university is an enormous hurdle. This is true for all students, but – as data about first-year dropout rates in South Africa show – especially among black students. This is because they tend to come from lower quality primary and secondary school systems than their white peers. For those who remain in the system and look to pursue postgraduate degrees, the lack of mentorship and role models is another issue. When you don't identify with people who are lecturing in terms of image, culture and background, it's easy not to relate to the field or subject. Diversity in the lecture hall is a way to show black women students that they can also take ownership in a particular field. It's important for these young women to look beyond the academy for mentors, too.
>
> (Mcunu, 2018)

[1] Ndoni Mcunu is the founder and CEO of the non-profit organization Black Women in Science; a PhD scholar at the Global Change Institute at Witwatersrand University; a 2017 Mandela Washington Fellow and a Greenmatter Fellow (https://theconversation.com/profiles/ndoni-mcunu-442436)

While the focus of this thesis is not limited to the mentoring of black women in science, Ndoni has introduced, through her personal experience and perspectives, some of the many issues facing young black professionals in South Africa. As a white South African woman born in the 1980s, I grew up very differently to most black South Africans in the province of KwaZulu-Natal. I received good-quality education to postgraduate level and was employed in an environmental organisation after my studies. While my privileged history is so different, I want to understand better the challenges faced by young black professionals in South Africa.

In this first chapter, before I expand on issues of educational quality and unemployment, I introduce environmental issues and risks which contribute an additional and underlying layer of complexity and threat, in the location of the research in the province of KwaZulu-Natal. I highlight the need for more environmental leaders, such as Ndoni Mcunu, and therefore the need for an understanding of the possibilities of mentoring for young black professionals in environmental organisations in South Africa. There have been several initiatives developed to contribute to the mentoring of young professionals in environmental organisations in South Africa. These initiatives and the contribution that the research will make to these and future initiatives will be introduced. Environmental education research that addresses the above-mentioned challenges is critical to ensuring that future generations thrive in a warming climate.

1.2 Living in a context of significant environmental risk

It is widely documented that the Earth's climate system is warming with subsequent and extensive impacts being experienced worldwide. The most recently published report (8 October 2018, directly before the 2018 United Nations Climate Change Conference – COP24) of the Intergovernmental Panel on Climate Change (IPCC, 2018) suggests, with confidence, that net zero carbon emissions close to 2050 are required to limit temperature increases above a threshold of 1.5°C globally. Temperature increases beyond this threshold will result in "irreversible and intolerable risks to society and economies" (CDP South Africa, 2019; IPCC, 2018).

According to Chapter 3: Impacts of 1.5 °C of Global Warming on Natural and Human Systems (Hoegh-Guldberg et al., 2018) of the IPCC 2018 report, Sub-Saharan Africa is already experiencing the impacts of climate change and all African countries have signed the Paris

Agreement.[2] While this agreement is important, the actual impacts on Africa remain uncertain. Temperature increases are expected to be higher than global temperature increases. It is predicted that in South Africa and other southern African countries, the highest increases in temperatures will occur. Increasing drought frequency and heat waves, as well as reduced precipitation will occur at a threshold of 1.5°C (Hoegh-Guldberg et al., 2018). Severe drought conditions were experienced in many parts of South Africa from 2016 to 2018. Dry conditions, to a large degree continue to be experienced in 2019 (see Figure 1).

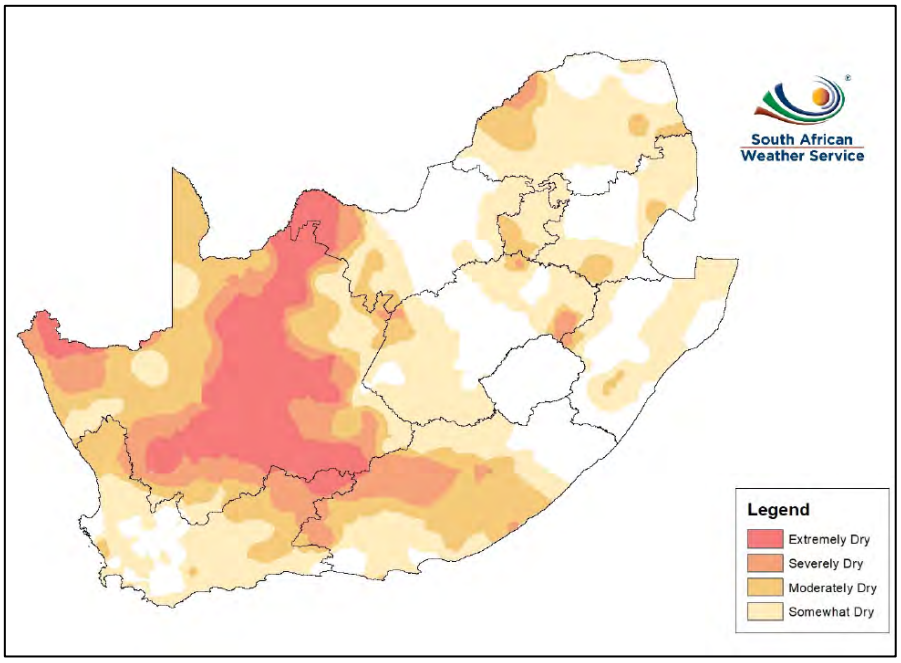


Figure 1: Standardised Precipitation Index for June 2018 to May 2019
(South African Weather Service, 2019)

Many South African organisations in both the public and private sectors have begun to experience the impacts of climate change and acknowledge the significant risk that they face. In the province of KwaZulu-Natal, the major city of Ethekwini (Durban) documents the following predictions for its area of responsibility in their Climate Change Strategy (eThekwini Municipality, 2014, p. 5):

- Average annual temperature increase is expected to be between 1.5°C and 2.5°C by 2065 and increase between 3ºC and 5ºC by 2100.

[2] Parties to the United Nations Framework Convention on Climate Change reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future during COP21 in Paris in 2015 (United Nations Climate Change, 2016)

- Potential increase in aggregated rainfall by 2065 with an increase of up to 500 mm by 2100.
- The northern parts of the city are expected to experience increases of up to 20% in long duration (one day and longer) rainfall.
- The outer west areas are predicted to experience increases in short duration rainfall, which may lead to localised increases of up to 30% in short term flooding.
- An estimated 30% to 100% increase in year-to-year rainfall variability.
- More intense rainfall events with increased erosive capacity.
- Increasing numbers of heat waves.
- Future sea level rise is expected to be greater than the current rate of 2.7 (+/- 0.05) mm/year.

In another region of KwaZulu-Natal, around the City of uMhlathuze, various impacts of climate change have been experienced (see Figures 2 and 3 that follow) and the recent prolonged drought has caused major social and economic risk to communities and industries in the region (City of uMhlathuze, 2018).

Figure 2: Flooding in an informal settlement along the Mzingwenya river near Richards Bay, KwaZulu-Natal (City of uMhlathuze, 2018)

Figure 3: The Goedertrouw Dam that supplies water to Richards Bay and surrounding areas at a level of 16% in 2016 (Photo: Alex McNamara, 2016)

In 2017-2019 I managed an initiative that aimed to improve water security in this uMhlathuze region with local government, communities, agriculture and industries. My environmental NGO employer worked closely with the South African private sector companies on improving social and environmental sustainability. Most of these companies participate in the Carbon Disclosure Project (CDP) and recently reported substantive risk for their businesses in terms of climate change. Companies reported the value at risk due to climate change to be R807 billion in 2018 (CDP South Africa, 2019). The total financial value of local water risks reported by South African companies was R35.5 billion and the impact and likelihood of these water risks was extremely high. Companies have already incurred costs of R9 billion to respond to their identified risks (CDP Worldwide, 2019).

The 2019 Global Risks Report (World Economic Forum, 2019) confirmed the increasing likelihood and impacts of environmental risk as extreme. The likelihood of extreme weather events, failure of climate change mitigation and adaptation and natural disasters dominated the Global Risks Perception Survey. The impact of these risks, as well as water crises and biodiversity loss and ecosystem collapse also ranked highest, second only to weapons of mass destruction.

A recent Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report indicated that biodiversity loss and ecosystem collapse is happening more rapidly than ever (IPBES, n.d.). One million animal and plant species are now threatened with extinction. The degradation of the foundations for life on Earth may very soon move past the point of recovery (IPBES, n.d.). Many scientists acknowledge this degradation as being part of

a unique era known as the ‘Anthropocene’ (Steffen et al., 2015a). Within this Anthropocene, humans are the drivers of these issues through industrialisation and population growth.

The Stockholm Resilience Centre introduced nine planetary boundaries for human life to exist safely within (Rockström et al., 2009 and Steffen et al., 2015b). Besides climate change and biodiversity loss, these planetary boundaries include chemical pollution; land-system change; global freshwater use; biogeo-chemical nitrogen (N) and phosphorous cycles; stratospheric ozone depletion and ocean acidification. Rockström et al. (2009) estimate that the boundaries of climate change, biodiversity loss and the global nitrogen cycle have already been breached and that these boundaries are connected. Steffen et al. (2015b) calls for decision makers to consider social factors such as equity as well as the planetary boundaries. Recently the United Nations Environment Programme 2021 policy paper *Making Peace with Nature* stated that environmental emergencies such as climate change, biodiversity loss, land degradation and pollution are interconnected and must be addressed together, while transforming people’s relationship with nature (UNEP, 2021).

In 1992, Ulrich Beck (Beck, Lash & Wynne, 1992, p. 24) described how environmental destruction has been debated in terms of the natural sciences as “discussions of nature without people, without asking about matters of social and cultural significance”. Efforts to bring more synergies between the natural and social worlds have evolved, with the IPBES (n.d.) report, for the first time, using indigenous and local knowledge in its assessments and seeking to better understand factors such as social interconnections, values and direct and indirect drivers of change. Western-based modern science dominates our knowledge systems (De Sousa Santos, 2015). Interrogation of “epistemological assumptions (what counts as knowledge) and ontological assumptions (what it means to be human)” is therefore essential (De Sousa Santos, 2015, p. 12).

Jason Moore (2017) called for increased awareness and reflexivity when considering the notion of the Anthropocene as a continued conceptual separation of humanity and the environment. A dualistic view of the world does not offer a suitable way of ending separateness and solving the world’s problems. Moore (2017) explained how in African history this way of being and seeing the world has resulted in people being placed into the category of ‘nature’, rather than ‘society’ and thus considered a less valuable entity. Such dualistic thinking has shaped society in South Africa, through colonialisation and Apartheid. According to Moore (Moore, 2017) the

concept of the Anthropocene does not adequately allow us to break away and find new ways of thinking and being when addressing environmental issues. There is little consideration of "societies in nature" but rather 'nature' and 'society'. The discipline of decolonial political ecology has developed in response to the need to understand "societies in nature" and the historical, cultural and political roots of environmental issues. Trisos, Auerbach and Madhusudan (2021 p. 1210) emphasize a decolonizing of ecology through "*decolonizing of the mind; knowledge of history; decolonizing access; decolonizing expertise and the practice of ethical ecology in inclusive teams*".

Early in my career, I noticed the separation or disconnect between scientists and managers of nature with their environment and the 'other' people living in and with nature, exerting "purposive control over nature through applied science" (Moore, 2017). Alternatively, the concept of a 'Capitalocene' considers "a situated and multispecies world ecology of capital, power and re/production" (Moore, 2017). Moore explained that the problem with capitalism is that it "operationalizes through this ontological rift of nature and society" (Moore, 2017).

The Anthropocene highlights planetary thresholds and boundaries that we have become dangerously close to since the 1850s and the Industrial Revolution (Steffen et al., 2015a). However, Moore (2017) argued for a better understanding of how relationships between power, capital and nature have occurred further back to the 1450s, when large-scale landscape changes in Europe and the valuing of nature in monetary terms began. The reality of capitalism as the driver of environmental issues should not be made vague through an Anthropocene focus, or reduced to an economic argument (Moore, 2017). The prototype for social developmental of the West has been mirrored and replicated in countries such as South Africa (De Sousa Santos, 2015). Understanding the connection between the movements of capitalism, colonialism and Apartheid as drivers of many issues in South Africa, is important. In addition, the impacts of climate change are affecting regions of the global South, including South Africa, more significantly than the rest of the world. Risks to water and food security, aggravated poverty and a lack of capacity to adapt and survive (IPCC, 2018) will have serious consequences for future generations. It is thus unsurprising that the youth are rising up in resistance to this dangerous and uncertain future that they face. Globally, school strikes for climate have taken place with young ambassadors, such as Greta Thunberg, boldly attempting to make their voices heard against climate change (https://www.schoolstrike4climate.com) (see Figure 4). The

Extinction Rebellion movement has also protested climate change, biodiversity and ecosystem degradation throughout the world, including South Africa (https://xrebellion.org.za).

Figure 4: Youth of Cape Town, South Africa join the international school climate strike (Source: South African Institute of International Affairs, Tweet 5pm 15 March 2019)

Young people have a part to play in transforming society and addressing the many issues faced in South Africa. Transformation requires education. "Education has the potential to facilitate catalytic transformation of society through development of understandings and actions that contribute to more sustainable social practices"(Mandikonza & Lotz-Sisitka, 2016, p. 108). The United Nations Educational, Scientific and Cultural Organization (UNESCO)'s policy piece *Re-thinking Education: Towards a global common good* calls for education that enables transformation and provides alternatives to the current "dominant model of knowledge" (UNESCO, 2015, p. 30). Significantly, this document also calls for a humanistic approach to education:

> A humanistic approach takes the debate on education beyond its utilitarian role in economic development. It has a central concern for inclusiveness and for an education that does not exclude and marginalize. It serves as a guide to dealing with the transformation of the global learning landscape
>
> (UNESCO, 2015, p. 36)

UNESCO's most recent policy piece '*Reimagining our futures together: a new social contract for education'* (UNESCO, 2021) calls for pluralistic and decolonial approaches to education, as well as humanistic and transformative approaches. "Indigenous and pluralistic ways of

knowing challenge assumptions to development models and practices" (UNESCO, 2021, p. 126).

Achieving decolonial, pluralistic, humanistic and transformative education in response to environmental issues and risk is no small task and it was important that this research should contribute in some way. I needed to understand the South African education system and opportunities for young people to address environmental issues and risks within my context.

1.3 Educational issues impacting South African youth

1.3.1 School-based educational quality issues

There are many challenges facing children living in rural South Africa and these challenges have an influence on their quality of education (Nelson Mandela Foundation, 2005). Many children wake up very early to get started on chores and caring for siblings before leaving to walk a long distance to school. These children often go through the school day with little or no nutritional food before making long return trip, where they may have additional chores and may not have electricity to do their homework late at night. If the region or household encounters challenges to financial and livelihood security, food becomes a major challenge for children. "When faced with income shocks, poorer households are more likely to cut down on food expenditure. This includes shifting to less nutritious food or consuming less food, both of which have the most detrimental effects on children's development" (UNICEF, 2011, p. 56). Besides these more common challenges of everyday life in rural South Africa (Nelson Mandela Foundation, 2005), challenges within the schooling system also influence the quality of education that children receive.

Since the fall of the Apartheid government, a destructive education system and the introduction of a new democratic government in 1994, the South African school curriculum has changed in many ways. Children entering the primary school system in 1998 experienced Outcomes Based Education (OBE) through Curriculum 2005 (C2005). C2005 was controversial in its implementation and development. It strived to bring about transformation and the opposite of the previous system with its principles (for example, learner-centeredness, non-discrimination, creative and critical thinking etc.), but there were assumptions made about teachers and what

was actually going on in the classroom (Chisholm, 2004)[3]. The Nelson Mandela Foundation Report (2005) found that teachers in rural areas tended to be negative towards OBE and believed that it was not suitable for rural areas, with not enough reading being encouraged. Learners need to develop critical thinking skills from knowledge sources other than the educator (Nelson Mandela Foundation, 2005), but a lack of resources and learning support materials has meant that implementation of C2005 in rural schools was difficult.

Following a review of C2005, a Revised National Curriculum Statement was released in 2002. However, conceptual learning was again compromised through this revised curriculum. For example, educators lacked their own foundational knowledge and understanding to teach the curriculum. Schudel (2012) noted this was in response to the extremely poor reading, literacy and numeracy results of South African schools in various tests between 1999 and 2011. This was despite a high total and gender balanced enrolment rate in primary education and substantial GDP spending on education. This raised questions around:

- government spending of funds;
- whether school enrolment is an indication of school attendance (considering issues of accessibility);
- the quality of education once learners are at school;
- threats of sexual abuse and harassment of girls at school;
- limited access to resources such as learning and teaching support materials;
- infrastructural challenges such as toilets, electricity, facilities such as libraries or science laboratories;
- the curriculum challenges highlighted above and the actual throughput rate of learners.

These issues affect the learning of learners in rural primary and high school[4] and most did not receive the quality of education that was envisioned by those working towards educational transformation post 1994.

Despite these many challenges, there are South African learners from previously disadvantaged backgrounds who have been able to matriculate with exemption in order to be accepted into

[3] My Masters research (Van der Merwe, 2010) introduced me to some of the challenges facing these schools and trying to align with C2005. The research found that actual classroom practice centred on learning content and concept definitions, but with no culture of use of learning support materials.

[4] I observed many of these challenges first-hand through my research observations in rural schools during my Masters research (Van der Merwe, 2010)

university. Some have been able to even imagine a future where they could go to university and get a job that would provide financial security for them and their families. They have imagined this, despite not knowing what exactly they could study or become as a professional, as there is very limited career guidance in schools, despite career guidance being part of a compulsory subject – Life Orientation (Rosenberg et al., 2009). Rosenberg et al.'s (2009) research on environmental career guidance for school leavers revealed that environmental career opportunities are more 'hidden' than opportunities in law or medicine. Learners do not favour environmental careers and their teachers often do not know much about environmental careers. The barriers to environmental professionalism are an important factor that are explored further on in the research process.

Exposure to possible environmental careers is at times made possible through experiences provided by external agencies (Van der Merwe, 2010). Environmental education was integrated into the curriculum through an "environmental focus integral to each learning area (which was explicit in learning area statements, learning outcomes, assessments standards and core knowledge foci of each learning area…)" (Schudel, 2012, p. 10) and a core curriculum principle highlighting the importance of developing awareness of connection to a healthy environment (Schudel, 2012). The opportunity to imagine an environmental career has been a possibility for some learners.

1.3.2 University-based educational quality issues

If a learner from a rural school was able to find out more about environmental careers and associated qualifications, applied and was accepted into university, financing tertiary education would be a further challenge for many. There is insufficient funding or bursaries for studies in environmental study areas (Rosenberg et al, 2009) and many learners are not able to acquire bursaries for undergraduate studies or student loans from the bank without a financially stable surety representative with adequate earnings, a problem that gave rise to the #FeesMustFall protests in 2015 (Mavunga, 2019).

If a learner from a rural school was somehow able to pay fees and attend university, many students may struggle and experience various elements of social exclusion, as discussed by Boughey (2012). Boughey (2012) highlighted that very low percentages of students in universities actually graduate, and the figures are much worse for black students regardless of

institution, qualification or study. Boughey (2012) confronted this dilemma through an exploration of how people are socialised into discourses. Students from a rural schooling background would have been socialised into a primary discourse at home and 'everyday language' that is spoken and acted as a 'vernacular identity' (Boughey, 2012). At home learners may not be exposed to reading books in their everyday lives as an example of literacy that would allow them to more easily acquire more 'elevated' secondary discourses at school (Boughey, 2012 p.140). Poor quality schooling would limit these students, as they would not be able to "*acquire the secondary discourses which will later facilitate the acquisition of academic discourse*" (Boughey, 2012 p.143). The different reading and writing practices that these learners were exposed to at school versus the academic text at university would also be another struggle that they may experience. They may have used certain languages within the contexts that they grew up in and these were very different to the language of academic contexts (Boughey, 2012). All of these factors can limit inclusion into university learning.

The higher education system also underwent transformation after 1994, towards equity and development. OBE was introduced into higher education with similar resulting challenges as the school education system and "approaches that focus on the application of knowledge to context rather than on the building of knowledge frameworks associated with more traditional curricula" (Bozalek & Boughey, 2012, p. 693). This created a dilemma for students struggling with fundamental knowledge frameworks to apply in context. Limited funding granted to higher education institutions post 1994 meant that higher education institutions continued to struggle and as a result staff became despondent and the quality of teaching in university suffered (Bozalek & Boughey, 2012). Students from rural backgrounds may not be adequately prepared for university in many ways. And the university is often not able to provide the type of teaching and support that the students require (Bozalek & Boughey, 2012).

1.3.3 Unemployment issues impacting South Africa youth and the environmental sector

If a student was somehow able to overcome the above-mentioned challenges and graduate, the graduate then faces the challenge of finding a job. Unemployment among the youth in South Africa is growing, with recent Statistics South Africa report (Statistics South Africa, 2018) on national and provincial labour market trends among the youth showing rates of unemployment of youth (aged 15 to 34) as having increased from 32.7% to 41.8% between 2008 and 2020. Unemployment rates among women are also higher than that of male youth and have increased.

Black African youth and adults have higher unemployment rates than the other population groups (Statistics South Africa, 2021). Youth unemployment is a threat that extends throughout the world. “While intensification of economic globalization has reduced global poverty, it is also producing patterns of low-employment growth, rising youth unemployment and vulnerable employment” (UNESCO, 2015, p. 15). While these statistics cover a broad range of sectors and labour markets, when considering the South African environmental sector specifically, employment in the sector was considered a ‘new’ area of employment, with research for the Human Capital Development Strategy for the Environmental Sector stating that there are not necessarily adequate employment opportunities available for students (Department of Environmental Affairs [DEA], 2010).

In addition, many graduates lack job readiness or experience in order to secure the employment that is available. According to Altbeker and Storme (2013) the marketplace is desperate for skilled graduates, however, employers struggle to find graduates that have the skills necessary for work. South African degree programmes have weaker work-integrated learning orientations than international programmes and those pursuing a career in the environmental sector are faced with qualifications that are not specialised or that are too general to equip them for the complexities and challenges within their working environments (DEA, 2010). Research into the Human Capital Development Strategy for the Biodiversity Sector (BHCDS, 2010) states that graduates require experience, which universities cannot always provide. For those graduates looking to strengthen their work experience in order to secure employment, there have been limited work experience initiatives available within the environmental sector (BHCDS, 2010; DEA, 2010). An important aspect of work experience and job readiness is mentoring.

Both the Human Capital Development Strategy for the Environmental Sector (DEA, 2010) and the Human Capital Development Strategy for the Biodiversity Sector (BHCDS, 2010) identified mentoring as being crucial to the South African environmental sector.

In summary, many young, mostly black, South Africans have significant challenges to overcome in order to achieve an education at tertiary level and then to gain the employment they strive for. An understanding of how to support individuals who do graduate, with the necessary work experience and mentoring, is critical. The environmental sector is the sector with the potential to address the environmental issues highlighted in section 1.2, and yet there

have been limited opportunities for graduates to gain work experience, mentoring and thus employment. Lotz-Sisitka et al. (2015) called for educational reorientation in order to respond to the issues of sustainability: “while society has confronted and produced large amounts of knowledge of numerous complex global environmental challenges, it lacks the capacity to respond to these challenges” (Lotz-Sisitka et al., 2015, p. 73). Young leaders who have the capacity to respond to these challenges through “a range of action orientated capabilities” and “new modes of learning” are essential (UNEP in Lotz-Sisitka et al., 2015). UNESCO (2015) recognises the importance and potential of learning beyond only formal education and developing competencies through new approaches of work-based learning, including internships and apprenticeships.

1.4 Groen Sebenza – an opportunity for graduates to gain work experience and mentoring in the environmental sector

In response to the findings and strategic objectives identified by the Human Capital Development Strategy for the Biodiversity sector (BHCDS, 2010), the South African National Treasury’s Jobs Fund Programme initiated a pilot skills development and job creation programme with the South African National Biodiversity Institute (SANBI), on behalf of the environmental sector in 2012. This programme became known as ‘Groen Sebenza’ and it aimed to catalyse access to employment and create jobs in environmental work for 800 unemployed and previously disadvantaged graduates and matriculants (SANBI, 2014). The objective of the Jobs Fund Programme is to “co-finance projects by public, private and non-governmental organisations that will significantly contribute to job creation” (About the Jobs Fund, 2012).

From 2013 it was envisioned that workplace experience would be gained within 32 partner environmental organisations from all tiers of government, non profit organisations and the private sector, through exposure to mentoring, skills development and training opportunities for a period of two and a half years (SANBI, 2013). Groen Sebenza aimed to create opportunities for these unemployed graduates and matriculants through the objectives of:

- Gaining meaningful workplace-based experience that builds on the foundation of their degrees or national certificates;
- Exploring work opportunities in biodiversity to find their niche in a broad spectrum of possibilities; and
- Networking across the sector to enable access to work opportunities on which to grow and develop their careers in ecosystem management. (SANBI, 2013)

Mentoring formed part of a strategic framework that was developed to guide the *Groen Sebenz*a host organisations in achieving the objectives outlined above (SANBI, 2013). Mentoring was thus identified as important within policy and initiatives in the environmental sector.

Ragins and Kram (2007) researched the development and meaning of the word 'mentoring' and defined it as: "a developmental relationship that is embedded within the career context. While learning, growth, and development may occur in many different types of work and close personal relationships, mentoring relationships are unique in that the primary focus of the relationship is on career development and growth" (p. 5). Defining mentoring as a useful concept for the environmental sector proved difficult. The body of research on mentoring theory and practice is not easily accessible (Kochan, 2013). Ragins and Kram (2007, p.10) note that most research on mentoring has drawn on the theoretical work of Kathy Kram (1985) and this work is explored in more depth in Chapter 2. According to Clutterbuck (2013), the field of mentoring is far from well developed with few qualitative studies, and mentoring is taken up differently in different contexts. Clutterbuck (2013) introduced many under-researched aspects of mentoring. Research on mentoring within an initiative such as Groen Sebenza could potentially contribute to the under-researched areas that Clutterbuck (2013, p. 250) has introduced:

- Dynamics of multi-cultural mentoring programmes;
- Managing endings in mentoring;
- Professional supervision for mentors; and
- Meta-models of mentoring and training of mentoring programme managers.

Research on mentoring within an initiative such as Groen Sebenza could also respond to Kochan's (2013) call for the identification of effective mentoring practices and the examination of cultural aspects of mentoring. Not only would this research contribute to mentoring research gaps internationally, but it would also inform the environmental sector on how to address the many challenges facing organisations and their mentoring capacity in South Africa. The professional workplace is small and under resourced in the South African environmental sector (BHCDS, 2010). Organisations have limited mentoring capacity with mid-range professionals (30 to 49 years old) having managerial responsibilities, which reduce their mentoring capacity and time availability (BHCDS, 2010). These organisations face high staff turnover and a

decline in suitably qualified professionals to mentor (BHCDS, 2010; Department of Environmental Affairs [DEA], 2010). Organisations struggle to retain staff and have limited career pathing, talent and diversity management capacity (DEA, 2010), which makes mentoring of the graduates lacking the necessary skills required for the job an even greater challenge.

There have been initiatives established in response to these challenges and needs, as well as initiatives to support host organisations in Groen Sebenza. As described earlier, part of my career responsibilities have included mentoring young professionals through internships. Another role was to provide learning opportunities for mentors within the environmental sector and the development of some of these initiatives. What I noted is a lack of in-depth understanding of what is going on within organisations in the environmental sector who are mentoring. The uptake of mentoring within these intiatives has not included a critical review or understanding of the theoretical underpinnings and definitions of mentoring as learning, within contexts of increasing complexity and risk. Research on mentoring within an initiative such as Groen Sebenza could contribute to strengthening these initiatives and ensuring that organisations and the young people who are being mentored are able to learn and bring about change in addressing environmental issues and risks in South Africa. Clutterbuck (2013, p. 250) concluded in his commentary on the future of mentoring research: “I believe that we are now entering a new era of mentoring research … where the predominant aim is to bring about positive change in workplaces, educational settings, and society”, although there is limited mentoring research to support this new era. In order to proceed with the development of the research, it was necessary to take a deeper look at the existing and previous initiatives for mentoring in the environmental sector.

1.5 Previous mentoring initiatives in the South African environmental sector

1.5.1 Limited research on mentoring initiatives in the sector

My research on mentoring in the environmental sector revealed an evaluation of graduate employability in the City of Cape Town through an Environmental Internship Programme (Bama & Ile, 2013). Between 2005 and 2013 the City of Cape Town’s Environmental Internship Programme required managers within various departments to mentor interns. The evaluation highlighted mentors’ uncertainty of their roles or availability; however, mentoring was not specifically the focus of the evaluation.

Further research was conducted by Ivey, Geber and Nänni who researched SANBI's Early Detection and Rapid Response Programme and how mentoring was used to "develop skills for biodiversity professionals, change the demographics in the profession and began to manage the invasive alien plant issue" (2013, p. 86). Ivey et al. (2013, p. 88) discovered that mentoring programmes within the environmental and biological sciences in South Africa are not documented and are limited. In addition to the initiatives described by Bama and Ile (2013) and Ivey et al. (2013), five other interconnected initiatives were identified.

1.5.2 An overview of identified mentoring initiatives in the environmental sector

The following mentoring initiatives in the environmental sector were established, dating back to 2007. The research on these initiatives has been limited.

Figure 5: Mentoring support initiatives in the environmental sector since 2007

Dr Glenda Raven played a leading role in all of the above-mentioned initiatives (Figure 5) and she described the revival of mentoring and internships from 2007 onwards during an interview (Raven, 2014). This revival was largely driven by a transformation agenda and the need to encourage and support black professionals into the sector (Raven, 2014). Raven explained that in the past there was a "strong culture of mentoring in organisations", specifically in nature conservation organisations, with the structure of the National Diploma in Nature Conservation that required mentoring during work integrated learning (Raven, 2014). While she felt that this culture had decreased as organisations changed following the 1994 democratic transition period, the importance or appreciation of mentoring was still recognised in the sector.

> I think the 1994 transition period brought lots of transformation in our organisations. I think that created some challenges with mentoring. I think people were just trying to find their way back into that space.
>
> (Raven, 2014)

In 2003, one of the few initiatives to address capacity development within the sector was the *Table Mountain Fund Capacity Building Programme* (Raven, 2014). This initiative was developed to address the need for transformation in the conservation sector (Raven, 2014). Raven worked within the *Table Mountain Fund Capacity Building Programme* from 2005, at the same time as an evaluation was conducted of an internship programme of the fund. She explained that the evaluation revealed that while there was funding for internship placement opportunities, a challenge identified was that interns were placed with mentors "who don't very often have the capacity" (Raven, 2014). This was when she first realised there was an increasing need to support mentors in the sector. Dr Eureta Rosenberg, who conducted the evaluation, confirmed that the evaluation revealed how important mentoring was and how it was not being undertaken very successfully in the organisations (Rosenberg, 2017).

1.5.2.1 A training programme to develop mentoring capacity for the Cape Action for People and the Environment (C.A.P.E) in 2007

Following this evaluation, in 2007 a programme was initiated to provide training to mentors in environmental organisations so that they would be able to implement effective mentoring practices that could develop capacity in organisations throughout the Cape Floristic region (C.A.P.E Capacity Development Programme, 2007). This mentoring training programme was prioritised by partner organisations of the Cape Action for People and the Environment's (C.A.P.E) Capacity Development Programme. The 2007 training to develop mentoring capacity for the C.A.P.E (Raven, 2011) was developed by training providers who used many concepts and approaches to mentoring from various sources. In reviewing the course materials to understand how mentoring has been conceptualised in the environmental sector over time, the sources of the content were not always explicit besides the following:

- The training materials introduced mentoring as having originated from the word 'mentor' in Greek mythology and Homer's *The Odyssey*[5] (C.A.P.E, 2007).

[5] Odysseus the King of Ithaca asked his friend Mentor to educate and develop his young son Telemachus to become king (C.A.P.E, 2007).

- The training materials explored the concept of 'learning organisations', drawing on the work of Peter Senge. In the materials the definition of a learning organisation is given as "organisations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together" (C.A.P.E, 2007). The materials explore mentoring as being enabled within a learning organisation.
- The materials often referred to the work of Kathy Kram for various definitions of mentoring.

1.5.2.2 A mentoring support resource for conservation professionals, practice and organisations in 2011

Raven, through C.A.P.E, then developed a mentoring support resource to improve and strengthen mentoring practices in partner organisations (Raven, 2011). In developing the resource *Mentoring to support work-integrated learning: A sourcebook for strengthening conservation professionals, practice and organisations*, Raven expanded some content of training materials to conceptualise and explain mentoring; share insights gained by the C.A.P.E programme and offer guidelines for mentoring in the workplace while drawing on real-life case examples. The resource used stories of mentoring gathered from the field during the programme's implementation to explore what mentoring is, its purposes, different approaches, key attributes of mentors and mentees, forms of mentoring, levels of mentoring and mentoring for effective workplace-based learning. Extracts from the stories were used to describe different aspects of these areas of interest; for example, the resource refers to peer mentoring as a form of mentoring where peers learning from each other can amplify the significance of group dynamics amongst peers. In the example, a quote is included from a City of Cape Town's conservator in one of the stories "…we learnt the skill of understanding yourself and others and the trust that allowed us to share…" (Raven, 2011, p. 37).

The resource content includes a 'NICE analysis' that is also found in the mentor training materials (C.A.P.E, 2007) to explore meeting mentee **N**eeds, **I**nterests, **C**ompetencies and **E**xpectations. The source of the NICE analysis was not evident in the training materials or resource. The NICE analysis was then adapted in the resource by Raven into the diagram below that "shows a continuum of mentoring over the long-term, with specific interventions of

counselling, coaching and training at different times to address specific needs" (Raven, 2011 p. 22).

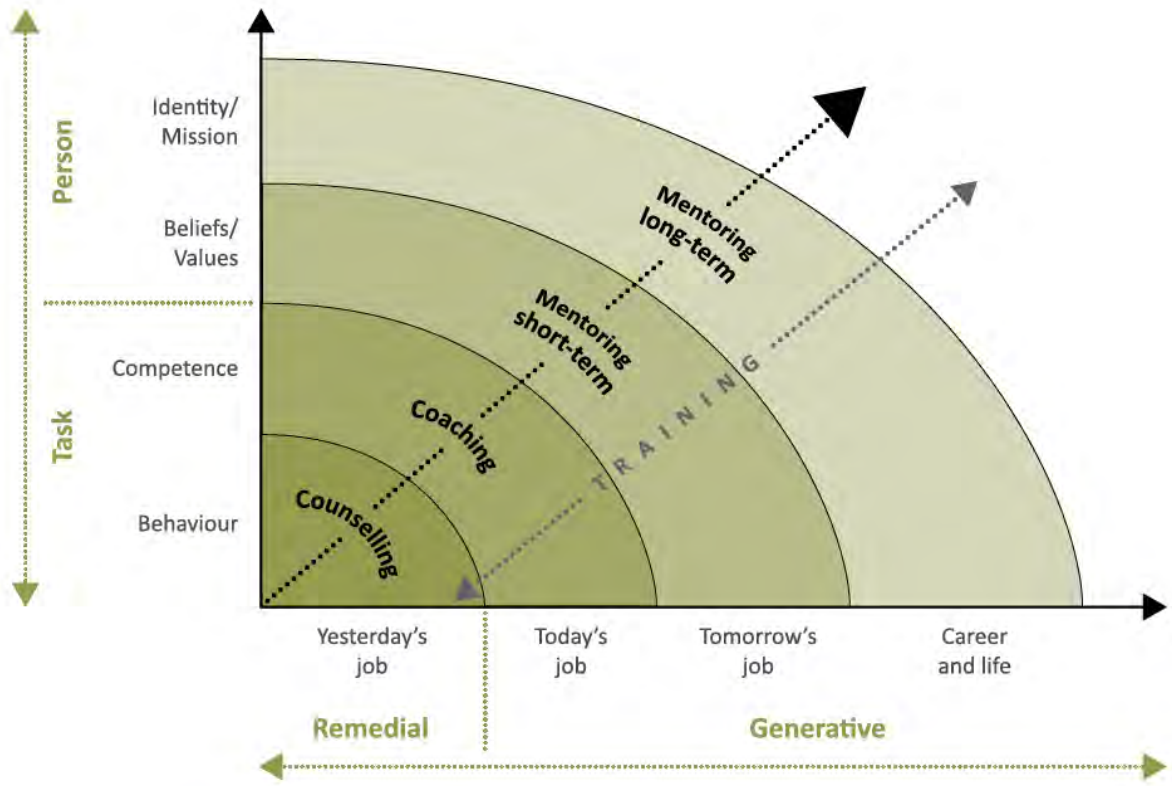


Figure 6: A continuum of mentoring with specific interventions (Raven, 2011, p. 22)

Additional content in the resource that is also identified in the training materials included: mentoring models such as group mentoring; peer mentoring; role model mentoring and network mentoring. Neither the resource nor training materials reference the sources of information. When asked about how she conceptualised mentoring in these initiatives, Raven expressed that her experience in practice has enabled her to "see a lot of contextual realities that require us to be more innovative in our mentoring approaches" and that she has tried to assist in providing contextually relevant content (Raven, 2014).

The above-mentioned resource and the content of the training materials (Raven, 2011 and C.A.P.E, 2007) influenced the development of resources and support initiatives that were part of the Groen Sebenza implementation.

1.5.2.3 Mentoring support efforts and engagements for Groen Sebenza *host organisations*

Rosenberg confirmed that efforts to support mentors in Groen Sebenza were driven largely by Raven (Rosenberg, 2017). During the planning and development of the Groen Sebenza programme by various sector organisations, Raven (representing the World Wide Fund for Nature South Africa - WWF-SA) in collaboration with GreenMatter[6], convened a task team meeting in August 2012. This task team included a number of environmental organizations involved to some extent in mentoring programmes. The task team (which included myself) then developed a proposal for a sector-wide national programme to strengthen mentoring practices.

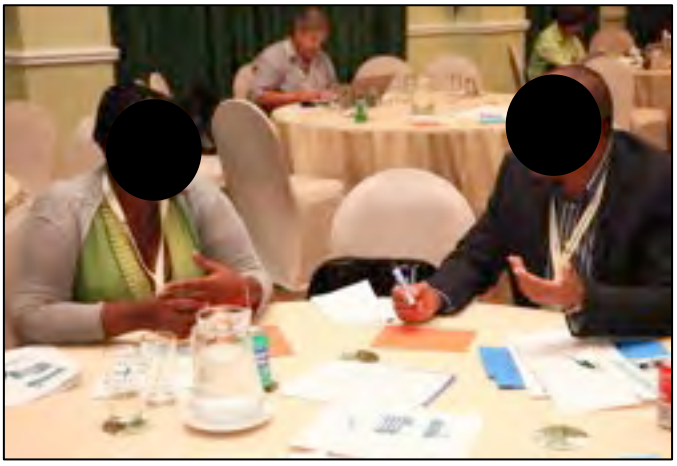


Figure 7: Environmental organisation representatives at a working session on mentoring support during the 2012 National Environmental Skills Summit (Photo: GreenMatter)

Rosenberg (who was playing a leading role in human capacity development initiatives for the environmental sector), under the umbrella of the organisation GreenMatter, organised the National Environmental Skills Summit in Johannesburg in October 2012. During the summit, in a working session, I assisted Raven in introducing the proposal for the various task team organisations to support mentoring in environmental organisations. Key themes (for example mentoring practices, induction, career guidance through mentoring etc.) for support resources and interactions were identified during the session. The insights gained informed the development of subsequent mentor support initiatives and an incubator framework for Groen Sebenza.

[6] GreenMatter is an initiative aimed at addressing transformation and skills development of graduates in the biodiversity sector. Founded by SANBI and the Lewis Foundation, it led the undertaking of the Biodiversity Human Capital Development Strategy (BHCDS, 2010) and its initiatives are responses to the needs identified by the strategy.

Figure 8: Author facilitating a session on mentoring support for the environmental sector during the 2012 National Environmental Skills Summit (Photo: GreenMatter)

At the time, Rosenberg and GreenMatter were working closely with SANBI and other lead organisations in planning for the implementation of Groen Sebenza. The Groen Sebenza Master Plan (SANBI, 2014a) was being developed and Rosenberg (2017) introduced the incubator framework that was part of the planning and implementation of Groen Sebenza. Mentoring formed part of this incubator framework that aimed "to guide the development of Pioneers[7] and Host Institutions interactions with them during the internship" (SANBI, 2014a, p. 47).

[7] The term 'pioneer' was adopted and defined as: "a youth between the ages of 18 and 35 years who has successfully applied to be part and has been enrolled in the Groen Sebenza programme. The Pioneer takes up incubation with any one of the Host Institutions who are part of the Groen Sebenza programme. The name Pioneer has replaced the previously used name 'Incubant'" (SANBI, 2014a, p. 5).

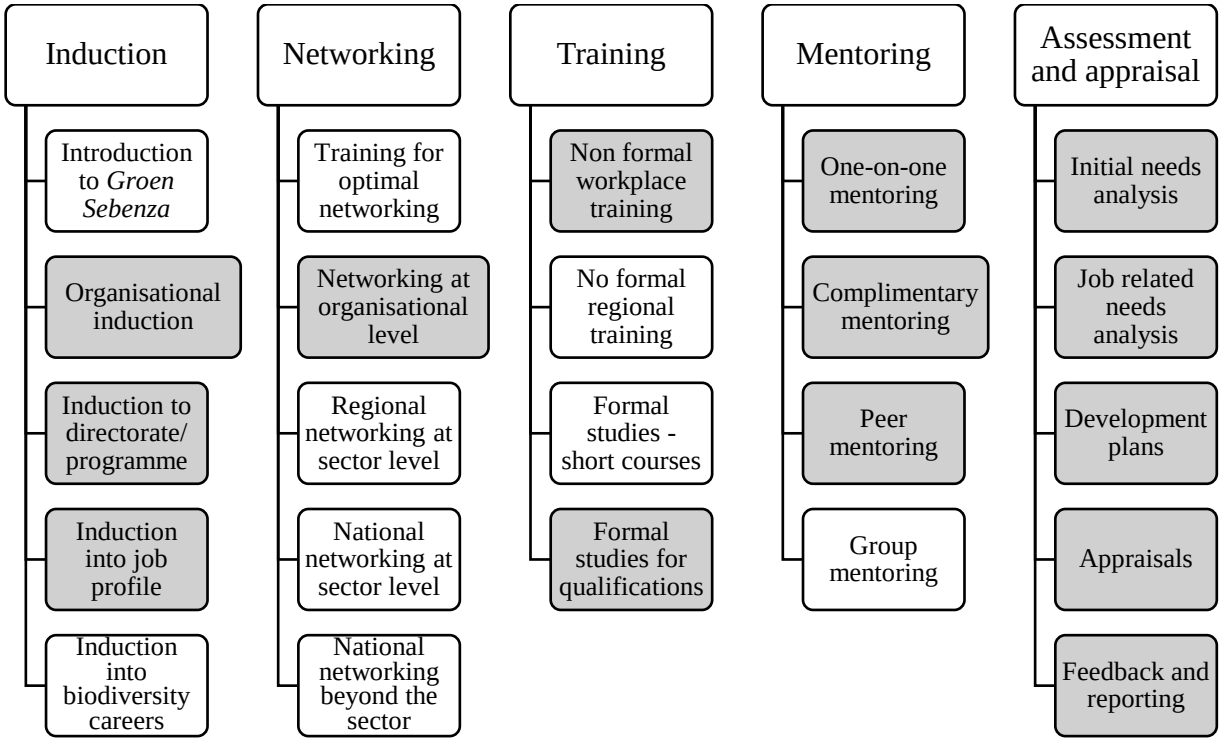


Figure 9: The Groen Sebenza incubator framework as introduced in the Master Plan (SANBI, 2014a)

The incubator framework (Figure 9) was made up of key focus areas supporting the development of the pioneers and included induction, networking and training, supported by mentoring, assessment and appraisal. An important outcome for Groen Sebenza was to strengthen the host institutions as 'incubators' of learning and development for the pioneers (SANBI, 2014a). The focus of mentoring included categories of one-on-one mentoring, complimentary mentoring and peer mentoring activities that were envisioned to happen in the organization, guided by a mentor who would be supported through mentor engagements (SANBI, 2014a). Mentors were to be provided with tools and learning during biannual engagements through opportunities for exploration, reflection and collaboration on mentoring best practice, innovation and strategies (SANBI, 2014a). SANBI, as the implementing agent of Groen Sebenza, arranged three mentor engagements in the different regions during the course of the programme.

During the first engagements with mentors in September 2013, the SANBI Groen Sebenza Regional Coordinators developed and facilitated the sessions. I assisted with the facilitation and content of the session for mentors in KwaZulu-Natal. Raven's (2011) mentor resource was shared and explored in detail with the mentors. This was the only source used to explain

mentoring within the engagement as the engagement focused on group discussions of personal experiences of mentoring to date.

Figure 10: Mentors sharing experience during the first Groen Sebenza mentor engagement in KwaZulu-Natal in September 2013 (Photo: Michelle Hiestermann)

During the second engagements in March and April 2014, the objective was to expose the mentors to mentoring methods (SANBI, 2014b). SANBI contracted Dr Hilary Geber as the facilitator of the engagement, who introduced a 'transformational mentoring model' that she had developed. Geber used the definition of mentoring from the resource shared at the previous engagement (Raven, 2011), as the mentors were familiar with it:

> A developmental relationship, focused on the professional practice of the mentee to increase and strengthen competence through support, guidance and appropriate opportunities for personal, professional and career growth and development
>
> (Raven, 2011, p. 14)

The different roles and forms of mentoring from Raven (2011) were also incorporated into the training content.

Geber referred to mentoring in SANBI's Early Detection and Rapid Response Programme (introduced earlier) (Ivey et al., 2013) in the content of the training as she had been part of the research team. Geber also provided content from other mentoring programmes that she had

researched (Geber & Koyana, 2012; Geber & Nyanjom, 2009;) as well as the City of Cape Town programme (Bama & Ile, 2013).

Geber included references to Clutterbuck's (2004) definition of mentoring as being "offline help by one person to another in making significant transitions in knowledge, work or thinking" (Geber, 2014). Geber also referenced the work of Kathy Kram's (1985) phases of the mentoring relationship. The GROW model that categorises **G**oal, **R**eality, **O**ptions and **W**ay forward as a process to assist in facilitating mentoring conversations was also introduced by Geber (2014). The GROW[8] model is drawn from corporate coaching field and the originator of the model is not clear.

The objectives of the third mentor engagements that took place in September 2014 were to cover factors influencing job placement, mentor implementation plans for job placement and to provide support for overcoming any challenges (Gondwana Alive, 2015). Facilitated by the organisation Gondwana Alive, under contract to SANBI, the facilitators did a scan of "50 academic studies linked in some way to occupation specific mentoring towards job placement" and integrated their findings for use in the workshop. South African studies (most of which are introduced in Chapter 2) were recommended to mentors, although it was not clear which studies and what aspects were recommended. The facilitators attempted to explore any mentoring techniques associated with certain occupations with the mentors. Kathy Kram's phases of mentoring were again used when preparing mentors for developing an action plan for mentoring for job placement (Kram, 1985 in Gondwana Alive, 2015). Additional mentoring content that was shared by the facilitators included the work of Jon Young. Young (in Gondwana, 2015) compared focus and commitment to a muscle that with experience is able to inspire through specific questions and listening skills (Gondwana, 2015) Gondwana (2015) guided the mentors to use this questioning approach.

At the same time as SANBI was conducting Groen Sebenza mentor engagements for host organisations, Raven (WWF-SA) and Rosenberg (GreenMatter) were further developing the sector wide initiative to support mentors.

[8] According to https://en.wikipedia.org/wiki/GROW_model

1.5.2.4 A mentors' course for the environmental sector in 2015

The initiative to support mentors in the environmental sector was run alongside, but also as a contribution to supporting Groen Sebenza's mentors and others in environmental organisations or organisations with an environmental interest, impact or mandate (Rosenberg & Raven, 2015). In 2014 the Mentors for the Environment course was developed by a collaboration of organisations and human capacity development professionals from the environment and skills development sectors.

Figure 11: Development of the Mentors for the Environment course in 2014 (Photo: Michelle Hiestermann)

The course aimed to improve mentor skills and confidence in organisations, while assisting mentors to "fit mentoring in among many other work responsibilities, by providing conceptual and practical tools for mentoring" (Rosenberg & Raven, 2015, p.3). The course included three modules:

1. An introduction to mentoring as an activity system for an overall systemic approach to mentoring
2. Theories of mentoring
3. Tools for mentoring

The approach of the course was to introduce "mentoring as part of a system, an activity that happens between individuals, but must be considered in relation to what happens elsewhere in the organisation and indeed in the broader national and skills development context and culture,

where expectations, processes, provisioning of resources, and more, might be influenced" (Rosenberg & Raven, 2015, p. 3).

In the first module, the 'activity system' (Engeström, 2001) (see Figure 12) was introduced as "a unit of analysis to understand the actions and interactions that shape mentoring activity" and as "a methodological framework to analyse mentoring activity in a work context" (Rosenberg & Raven, 2015, p. 4).

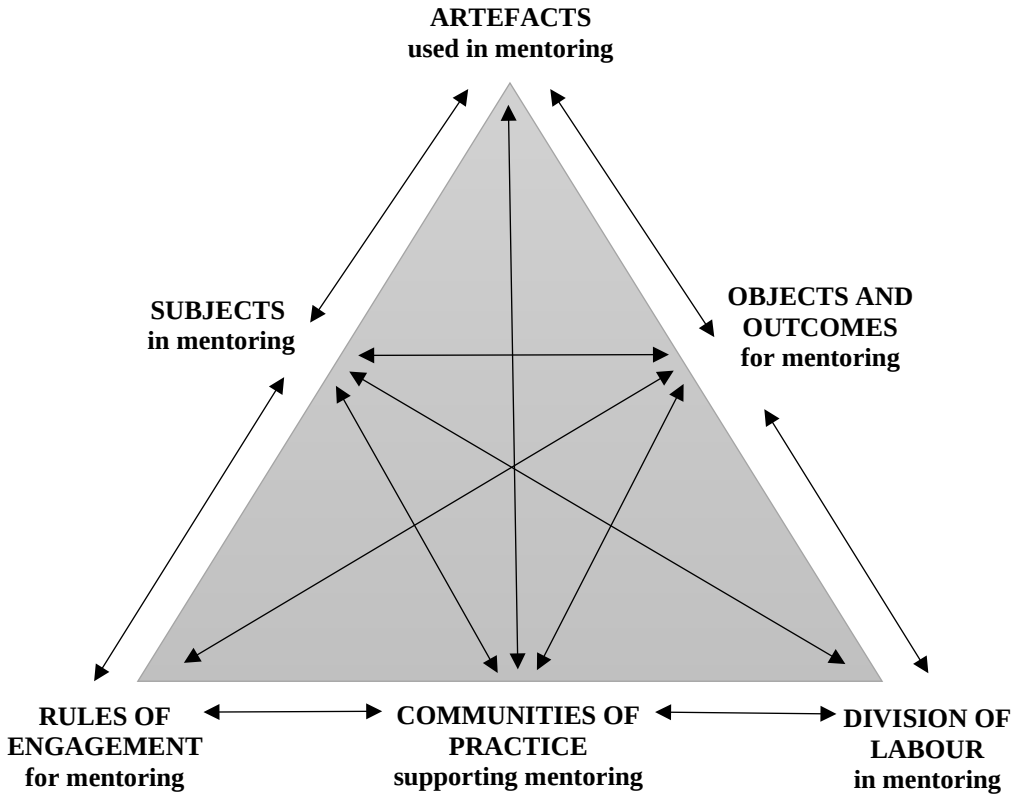


Figure 12: An Activity System of mentoring in a work context (Rosenberg & Raven, 2015, p. 4)

In the second module theories that guide mentoring programmes were introduced. Rosenberg and Raven (2015) provided theoretical explanations of how mentoring can affect how practitioners value and thus plan, implement and evaluate mentoring. Rosenberg and Raven (2015) used the literature reviews of Dominguez and Hager (2013) and Ehrich, Hansford and Tennent (2001) to begin to classify mentoring theories but stated that there is no perfect classification. In this module Rosenberg and Raven (2015, p. 4) recognised that mentoring had become increasingly institutionalised and was seen as a "formal activity in workplaces such as colleges and universities, businesses, government departments and non-governmental organisations" from the 1970s onwards.

Rosenberg and Raven (2015) highlighted that mentoring theory originated from different institutional contexts. The different contexts were connected to relevant theories introduced by Ehrich et al. (2001) in the diagram below.

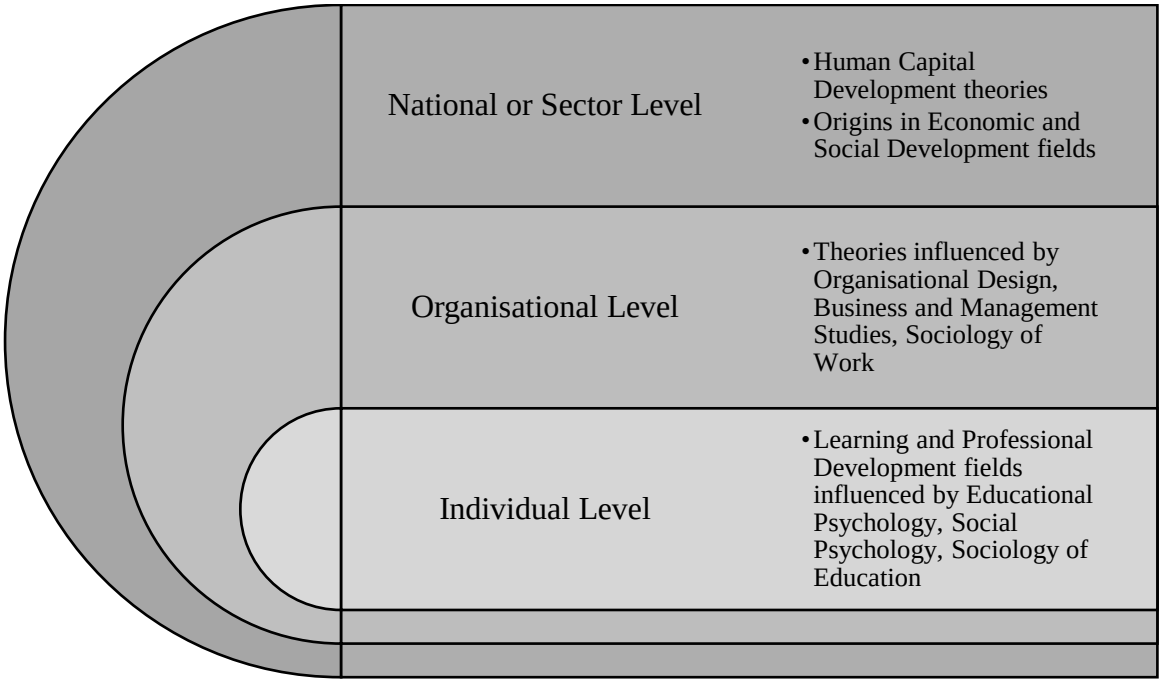


Figure 13: Mentoring theory as identified by Ehrich et al. (2001) in relation to different contexts of mentoring (Rosenberg & Raven, 2015)

Rosenberg and Raven (2015, p. 8) described how Ehrich et al. (2001) classified mentoring theory according to these institutional contexts:

- When the focus of mentoring is at an individual level, theories from individual learning and professional development, with origins in educational psychology, are often used.
- When the focus is on mentoring assisting organisations to be successful, theories from learning and professional development, as well as organizational development, management and business tend to dominate.
- When mentoring is used at a larger scale at a sector or industry level for example, economic and social theories of development tend to be used.

Rosenberg and Raven (2015) then described and categorised mentoring theories according to the approach taken by Dominguez and Hager (2013) using developmental theories, learning theories and social (and including economic) theories as depicted in Table 1.

Table 1: Mentoring theories grouped according to Dominguez and Hager (2013)

Developmental theories	Learning theories	Social and economic theories
Levinson's life stage theory	Adult learning (Andragogy)	Socialisation
Kram's mentoring stages/phases	Behaviourism	Human/social capital development
Kegan's developmental theory	Cognitivism	Social exchange/ Leader member exchange
	Constructivism	Social network
	Action learning	Communities of practice
	Social learning	
	Transformative learning	

Rosenberg and Raven (2015) provided brief overviews of the different theories using practical examples.

In the third module of the 2015 *Mentors for the Environment* course, Rosenberg and Raven (2015) made use of various 'tools' for mentoring:

- An adapted version of mentoring models and competency profiles from research on South African organisations (Meyer & Fourie, 2004);
- SWOT analysis to assess strengths, weaknesses, opportunities and threats in an organisations (no reference);
- Tools such as the NICE analysis, mentoring, development and assessment plans etc. from the WWF-SA Internship Programme, that were developed by Glenda Raven (Raven, 2011);
- Tools and materials on mentoring developed by the professional coach company PureCoach for a GreenMatter Fellowship[9] Learning Portfolio; and
- Difficulties in mentoring as explained by (Clutterbuck, 2004).

The overviews of the different initiatives to support mentors in the environment sector reveal great diversity in approaches to conceptualising, explaining and theorising mentoring. The conceptualising, explaining and theorising of mentoring were not often consistent, explicit or

[9] The GreenMatter Fellowship supported graduate, young professional and experienced leaders in the environmental sector through financial awards, mentoring, personal and professional development and networking opportunities. GreenMatter, together with PureCoach, led workshops on mentoring and developed a learning portfolio for these sessions (PureCoach, 2013).

thorough. A gap in research on mentoring in the environmental sector was very evident, as well as a clear conceptualising, explaining and theorising of mentoring and what value it creates.

In order to undertake research that would best serve the environmental sector with these gaps in mind, I aimed to explore mentoring as a value-creating proposition for the environmental sector through Groen Sebenza, in different host organisations. I aimed to develop an in-depth understanding of the factors that enable and constrain mentoring in different organisations. As a human capacity development practitioner in the sector, this understanding would help me to strengthen mentoring support initiatives for the environmental sector in the future. I defined human capacity development according to the capacity mobilization theorizing as a relational property of Mitchell, Wals and Broackwell (2020). The approach explains that capacities:

> Already exist in individuals and their communities in the form of values, knowledge, skills, agency, relationships and other resources…capacity is viewed as a relational property that emerges in a specific context where people are trying to bring about change. Its emergence is highly dependent on the quality of the relations that exist between all actors and materials involved in that situation and the availability of the right tools and support available for the task and context at hand
>
> (Mitchell, et al, 2020, p.4)

1.6 Personal research motivation

I experienced life-changing mentoring at a young age. As a young professional in the environmental sector doing scientific research on leopard populations in northern KwaZulu-Natal, I realized how disconnected those working at addressing environmental or wildlife issues were from the local people living closest to the environmental issues. And especially from the young people who would be the next generation managing and living with these environmental issues. This realisation was made more apparent during my Masters research on the use of environmental learning support materials in the rural schools of Maputaland in KwaZulu-Natal (Van der Merwe, 2010). During this time I gained first-hand experience and knowledge of the educational challenges faced by the majority of young South Africans in rural schools.

During my career, I managed a graduate development programme where previously disadvantaged, mostly black, young women, were employed in the organisation to gain work experience and complete a Masters degree. The young women, who received mentoring, excelled and are currently all leaders in their fields in the environmental sector. During this

time I was invited to contribute and support the development of the above-mentioned youth development programme Groen Sebenza. I gained knowledge and experience in possible solutions to some of the challenges and concerns that I had identified earlier in my career. I had experienced the value of having a mentor at a young age, but had also seen the value of mentoring for other young women, which influenced my interest in researching mentoring. These experiences provide the motivation and personal purpose behind the PhD research. During the research period, further life experiences shaped and informed the thesis and will be introduced in the final chapter. I believe that PhD research is strengthened when it is deeply meaningful to the researcher and the contributions they will make to world.

1.7 Research objectives and questions

1.7.1 Research objectives

- To explore mentoring as a value creating proposition in environmental organisations;
- To develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations; with a view
- To inform human capacity development initiatives that support mentoring in the environment sector.

Articulation of value creation (as immediate, potential, applied, realized, transformative, and strategic value), uses a theoretical framework that will be further elaborated in Chapter 2 (section 2.4.3). Wenger, Trayner and De Laat's (2011) conceptual model for promoting and assessing value creation in communities explore value creation as the learning value that is happening through participation in the community. This model and its subsequent evolution, is explored in more depth in Chapter 3. It offers a way to identify and explain how learning is taking place through narratives.

1.7.2 Research questions

1. Is mentoring a value creating proposition for organisations in the environmental sector and if so, how?
2. What structural, cultural and agentive factors enable or constrain the value creation possibilities of mentoring for organisations in the environmental sector?

1.7.3 Research sub-questions

1. What is the history and context of mentoring in environmental organisations?
2.
    a. What mentoring has taken place and what are the experiences of it, as immediate value?
    b. What has mentoring produced, as potential value?
    c. What difference has mentoring made to practice, as applied value?
    d. What difference has mentoring made to the achievement of what matters, as realised value?
3. Has mentoring resulted in agential and structural elaboration, as transformative value?
4. What is the strategic value of mentoring for organisations in the environmental sector?

1.8 Overview of the thesis

The thesis is divided into six chapters and the following is an overview of these chapters.

Chapter 1

- Introduction to the history, context, issues and risks that the research is addressing
- Research objectives and questions

Chapter 2

- Overview of the literature to understand mentoring
- Introduction to developing a domain specific meta-theory through immanent critique
- Emerging trends of specific theories to explain mentoring
- Social learning theories to answer the research questions and critique, including ontological foundations of the theories
- Alternative ontology
- Social realist meta-theory
- Domain specific meta-theory

Chapter 3

- Methodological framework to examine structure, culture and agency and identify and explain social learning as a value-creating proposition in environmental organisations
- Analytical framework incorporating the morphogentic framework and value creation framework

Chapter 4

- Mentoring as a value creating proposition in an environmental non profit organisation
- Mentoring as a value creating proposition in an environmental consulting company

Chapter 5

- The transformative value of mentoring in an environmental non profit organisation as structural, cultural and agential elaboration
- The transformative value of mentoring in an environmental consulting company as structural, cultural and agential elaboration

Chapter 6

- The strategic value of mentoring in an environmental non profit organisation and an environmental consulting company
- The strategic value of mentoring for environmental sector human capacity development initiatives supporting mentoring in South Africa: SANBI's *Groen Sebenza* and initiatives beyond *Groen Sebenza*
- The usefulness of the research for my work and society; the usefulness of the theoretical framework; reflection on a recent publication on social learning value creation; research recommendations

1.9 Conclusion

This first chapter has described my understanding of the history, context, issues and risks that the research is addressing, through the literature available and within the confines of a doctoral study, to inform the research questions, aims and objectives. The chapter sets a backdrop for the subsequent interconnected chapters of theory and methodology. In the final three chapters, the findings and contributions of the research are connected to the initial purpose introduced in Chapter 1. The overview of the chapters in section 1.8 explains the logical flow of the thesis.

CHAPTER 2:
BUILDING A THEORETICAL FRAMEWORK FOR EXPLORING MENTORING IN SOUTH AFRICAN ENVIRONMENTAL ORGANISATIONS

2.1 Introduction

This chapter provides an overview of the literature to understand mentoring. The process of identifying an appropriate theory for conceptualising mentoring was difficult and so the approach of developing a domain specific meta-theory through immanent critique is explored. Through this approach, emerging trends of specific theories to explain mentoring that emerged in key literature reviews of mentoring are explored. Social learning theories are deemed appropriate to answer the research questions and are critiqued with the ontological foundations of the theories examined. An alternative ontology of critical realism is proposed with a social realist meta-theory to strengthen the explanatory potential of the theoretical framework and the chosen domain specific metatheory.

2.2 The confusing dilemma of identifying appropriate theory for conceptualising mentoring

According to Kochan (2013), mentoring has become an international phenomenon and an approach to individual and organisational development in many fields of business, industry, government, health and education. In the educational research field, Kochan (2013, p. 1) has described the dilemma further:

> What has been written within educational settings has been built upon or used citations from business, leadership, or other fields. Thus, there does not appear to be a high quality, cohesive, easily accessible body of research available focused on the primary issues of mentoring theory and practice in education.

As I attempted to establish some sense of direction in research and literature on mentoring in order develop my own theoretical framework, I identified existing literature reviews in order to assist in navigating the vast and complex body of mentoring literature, with a particular focus on theory.

I recognised some of my struggle in Tara Fenwick's (2010) review of the diverse representations of 'learning' evident within workplace learning accounts across a wide range of fields. Fenwick (2010, p. 80) discovered that 'learning' is not a "single object, self-evident

and mutually understood", but is actually "multiple objects as different things in different logics of study and practice". It is thus "a messy object, existing in different states or perhaps a series of different objects that are patched together through some manufactured linkages". When reading the literature reviews, it seemed that mentoring could be viewed as a similar 'messy object'. While Fenwick (2010, p. 80) conducted a meta-review of the workplace learning literature over a six-year period (such a meta-review of the literature extends beyond the scale of this thesis), she did refer to "blurry maps of workplace learning" with their "manufactured linkages". I found the reviews that I explored to be equally 'blurry', with their own different objects and 'patching together through manufactured linkages', similar to the diverse representations of learning in workplace learning literature across different fields. Table 2 that follows is a summary of reviews I identified. The authors have grouped their varied interpretations of theory in mentoring.

Table 2: Grouping of mentoring theory in literature reviews

Author of review	**Categories of theories**	**Theories identified**
Dominguez & Hager (2013)	Developmental	Life stage theory Mentoring phases, psychosocial and career functions Developmental stages
	Learning	Adult learning theory Behaviorist theory Cognitivist theory Constructivist theory Action learning theory Transformative learning theory Social learning theory
	Social	Socialisation theory Human and social capital theory Social exchange theory Leader member exchange theory Developmental network theory Social network theory Communities of practice
Author of Review	**Categories of Theories**	**Theories identified**
Ehrich et al. (2001) Business studies	Economics	Human capital theory Leaders membership exchange theory Mutual benefits model Social exchange theory
	Developmental theories	Generativity Developmental theory (i.e. Age and stage theory) Career development theory Stages of knowing (women) Sociological theory

	Author's own theory	Building on existing theory and data
	Theories related to power	Selection process Pipeline theory Embedded intergroup relations theory Gender congruency theory of power Five bases of power Foucault's theory of disciplinary techniques and control Model of empowerment Sociology of professions theory
	Leadership/ management theory	Contingency theory Model of decision-making Competing values framework
	Learning theory	Social learning theory Apprenticeship model Learning organisation
	Theories related to organisational structures/ socialisation and networks	Structural theoretical approach Structuration Social network theory Socialisation Informal-integration – diversity valuation
	Interpersonal relationships	Maintenance communication Post-Confucian theory
Ehrich et al. (2001) Educational studies	Developmental theories	Age and stage Developmental stage theories for teachers Teacher concerns Cognitive development theories Social role taking Social interaction theory Reflection model Social capital theory Theory of possible selves
	Adult learning theories	Adult learning theory Mentoring model Experiential learning theory Critical reflection
	Economic theory	Social exchange theory
	Learning theory	Role model theory Social learning theory Apprenticeship model Constructivist/socio-cultural theories
	Coaching/skill development models	Cognitive coaching model Clinical supervision model Skill development model
	Leadership Theory	Contingency theory Change theory
	Authors' own Theory	Building on existing theory and data
Author of Review	**Categories of Theories**	**Theories identified**

Scandura & Pellegrini (2007)	Early traditional mentoring theory	Mentor as experienced guide
	Functions and roles of mentors	Career development and psychological support Distinct mentoring function Mentor roles
	Integration of mentoring and leadership theory	Leader-member exchange Paternalistic leadership
	Temporal theories of mentoring	Mentoring phases
	Criterion variables	Career theory perspective Organisational behavior Mentor outcomes
Author of Review	**Categories of Theories**	**Theories identified**
Ragins & Kram (2007)	Developmental networks	Developmental networks Mentoring networks Social network perspective developmental initiation
	Developmental theory of relational interactions	Stone centre relational cultural theory
	Adult development theory	Constructive-development theory
	Organisational culture and emotional intelligence	Emotional intelligence
	Personal change	Intentional change theory
	Developmental relationship and career cycles	New models of career learning
	Communication and interpersonal relationships	Mentoring enactment theory
	Work-family outcomes	Work-family perspective model

Similar to Fenwick (2010, p. 79), I faced the dilemma of "how to mediate a multiplicity of definitional, ideological and purposive orientations". In addition to this dilemma, the theorising of mentoring is often found to be limited or non-existent in these reviews.

Dominguez and Hager's (2013) review of mentoring literature, explored the theoretical frameworks underpinning mentoring in higher education research. According to Dominguez and Hager (2013, p. 172), there are "multiple, inconsistent uses of these theories across the available body of research". Scandura and Pellegrini (2007), in their book chapter 'Workplace mentoring: Theoretical approaches and methodological issues', described the main streams of thought in mentoring theory and identified many diverse studies where theoretical articulations were not explicit.

The review by Ehrich et al. (2001) explored literature in business and education studies and the acknowledgement of theory in the literature. Ehrich et al. (2001) found that many studies developed their own theory, building on existing theories, in both business and educational

studies. Healy and Welchart (1990), Jacobi (1991) and Gibb (1999) in Ehrich et al. (2001) shared the concern that research in mentoring is not locating mentoring within a wider theoretical framework, especially in education studies where only 15% of the 159 studies reviewed were explicit about the theory used.

> If mentoring research is to be taken seriously by researchers and practitioners alike, it is incumbent upon researchers to articulate the theoretical underpinnings of their empirical research. We feel that this will help eliminate the definitional confusion that surrounds mentoring and strengthen its place in the academic researcher community.
>
> (Ehrich et al., 2001, p. 3)

My feeling of being dazed and confused while wading through the mentoring literature was clearly an experience felt by other researchers, especially when much of the literature offered no clear theoretical articulation or references. Without theory, Sayer (1992, p. 45) referred to research as being of a "naïve objectivist view". According to Sayer (1992), "the data we gather are already (pre)conceptualized. We may have sensations without concepts, but we have no perceptions without concepts" (p. 52). If I was to make sense of the data and research mentoring, I needed to find a way to develop a theoretical framework in order to conceptualise the object of my research. While much of the literature has not articulated theoretical underpinnings, there is theory that has been commonly used in research on mentoring. Ragins and Kram (2007) in the *Handbook of Mentoring at Work: Theory, research and practice,* emphasised that times have changed (society, organisations, technology, strategy, employer-employee relationships) and theoretical perspectives on mentoring need to develop and be broadened for changing contexts.

To carefully develop a theoretical framework for the context of the research, I needed to explore the ontological foundations of the theory. Margaret Archer (1995, p. 5) argued for "recognizing the tripartite connections between ontology, methodology and practical social theory and ensuring consistency between them". Developing an understanding of the ontologies that underpin the many theories I had encountered within the mentoring landscape was daunting. In order to find suitable theory, I made use of an approach adopted by Justin Cruickshank in his 2003 book, *Realism and Sociology: Anti-foundationalism, ontology and social research.* Cruickshank (2003, p. 152) stated that: "We cannot step outside perspectives. We need to develop perspectives via immanent critique of past theories, and via the revision of domain specific meta-theories in the process of empirical research". Ontology is used to ground

research and the formation of specific theories, and in the process a 'domain-specific meta-theory' is developed. The domain-specific meta-theory is developed through immanent critique of existing explanations of the research (Cruickshank, 2003).

2.3 Developing a domain specific meta-theory through immanent critique

Immanent critique involves "examining how the existing terms of reference failed to account fully for the reality that they were supposed to explain" (Cruickshank, 2003, p. 144). Cruickshank used the case of chronic unemployment to argue for the development of the domain specific meta-theory via immanent critique of existing explanations. "These explanations are examined to see to what extent they are able to account for chronic unemployment and, in developing some new concepts to deal with the deficiencies, the general precepts from the general social realist ontology are drawn upon" (Cruickshank, 2003, p. 5). I examined some of the explanations of mentoring most relevant to my research topic and explored whether they would be able to explain how mentoring is a value-creating proposition for organisations in the environmental sector as well as what factors enable or constrain these value creation possibilities of mentoring.

This examination was done with a social realist ontological perspective, which then connected with a social realist theoretical lens to critique the relevant specific mentoring theories for the research. Cruickshank (2003) used Social Realism as what, he termed, a general realist meta-theory, in order to provide "a link between realist philosophy, realist theory and empirical research, in a way that gives theory a strong role to play, but without assuming that the theory supplies a privileged path to reality in itself" (2003, p.1). Cruickshank provided examples of where in research it is possible to cut the data to fit a specific theory or verify an ontology to be true beforehand. He referred to this theory as being used as a "master builder" and an approach that allows for a "sociological logic of immediacy" (2003, p. 28). Through the process of immanent critique of the existing theories that I encountered, I will then reveal how Social Realism proves to not explain human behaviour as dictated by a definitive ontology of human nature or social structures. Social Realism also does not result in an analysis of the data that seeks to only verify an ontology that I, as researcher, thought to be true already, thus avoiding the sociological logic of immediacy which Cruickshank described.

In summary, Chapter 2 examines some of the existing ideas and theory used to explain mentoring and to what extent these theories would be able to account for the objectives of this research. The research aimed to explore mentoring as a value-creating proposition in South African environmental organisations. This process also enabled me to examine to what extent these explanations would be able to account for the factors that constrain or enable the value creation possibilities of mentoring in environmental organisations. The use of Social Realism as a general realist meta-theory is outlined. Domain specific theories at an empirical research level to explore mentoring as a value-creating proposition in South African environmental organisations are examined. General realist meta-theory enabled an exploration of the factors that constrain or enable the value creation possibilities of mentoring in environmental organisations.

This chapter will reveal how this approach assisted in improving the terms of reference of past theories. As Ehrich et al. (2001, p. 3) pointed out, mentoring researchers must "articulate the theoretical underpinnings of their empirical research" in order for mentoring to be positioned as a worthy research field in academia. The use of immanent critique allowed me to do so in a manner that avoids the sociological logic of immediacy.

As I examined specific theories in the mentoring literature and described their inadequacy in explaining the empirical context of the research, I identified specific theories that could be suitable for interpreting the data. The specific theories examined were identified through noting trends emerging across the different literature reviews in Table 2.

One such trend was evident in Ehrich et al.'s (2001) examination of business studies – the majority of studies in these fields did not reveal any theoretical connections. However in those studies that did, Human Capital Theory was one of four most commonly cited theories used in business studies of mentoring. Ramaswami and Dreher (2007) in Dominguez and Hager (2013 p. 178) defined Human Capital Theory as "the set of competences and proficiencies an individual acquires through investment in education and job training, in the pursuit of a higher potential income".

2.3.1 Human capital theories of mentoring

Human Capital Theory (HCT) and other commonly cited theories identified in business studies by Ehrich et al. (2001) such as Social Capital Theory, Social Exchange Theory, Leader Member Exchange Theory, Developmental and Social Network theories originated in the discipline of economics and "view mentoring as a type of exchange that addresses reciprocal transactions between participants" (Ehrich et al., 2001, p. 6). The following theories are related to HCT:

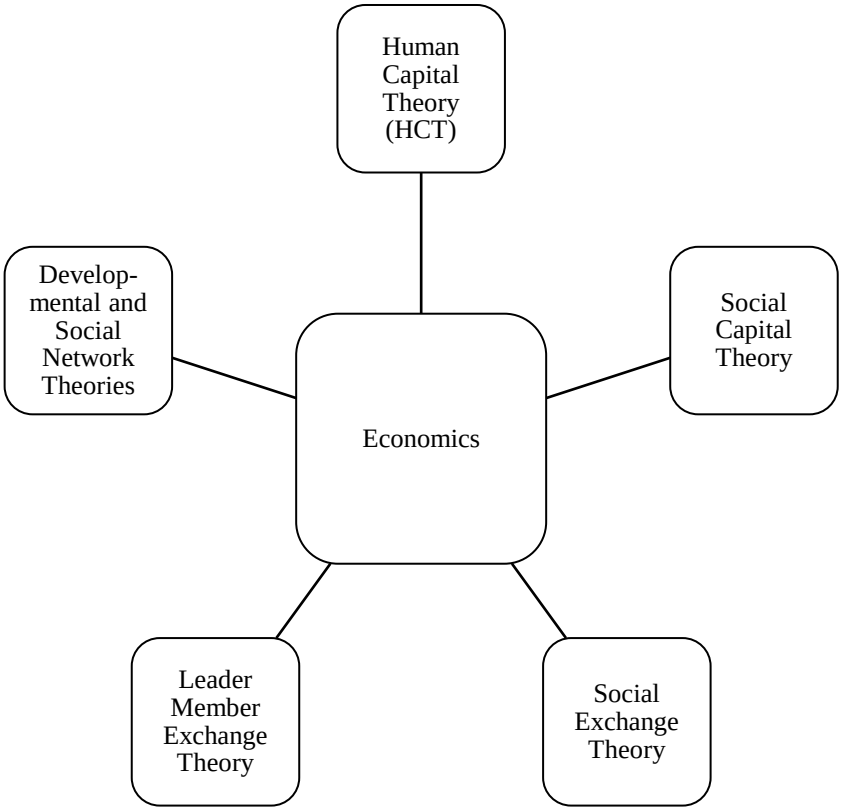


Figure 14: Economic theories related to Human Capital Theory (Source: Author)

- Social Capital Theory was concerned with increasing social networks in order to increase wealth and status (Dominguez & Hager, 2013).
- Social Exchange Theory viewed the mentoring relationship as offering certain benefits with rewards being more than the costs invested.
- Leader member exchange theory developed from Social Exchange Theory and is common in reviews conducted by Scandura and Pellegrini (2007), Dominguez and Hager (2013) and Ehrich et al. (2001). Leader Member Exchange Theory is described in Dominguez and Hager (2013) as a leader being able to use power and access to resources to achieve certain needs in the mentoring relationship and for an organisation.

- Developmental and Social Network Theories are described in Dominguez and Hager (2013), Ehrich et al. (2001) and Higgins, Chandler and Kram (2007) in Ragins and Kram (2007) as theory with a focus on the benefits of a diverse network of multiple mentoring relationships.

While these theories were all concerned with the aspects of the social in mentoring, they are related to and stem from the same discipline of economics. As a foundational theory within the school of thought of economic theories of mentoring, I explored HCT in more depth as I discovered that it has influenced education and training policy in South Africa. Dominguez and Hager (2013, p. 178) classified HCT as a 'social theory' of mentoring. HCT emerged in the 1960s as an attempt to bring a social focus to capital with the inclusion of skills and knowledge as a means of return of investment (Vally & Motala, 2015). I established that there are fundamental flaws in HCT which render it unsuitable for exploring mentoring as a value-creating proposition in South African environmental organisations. In order to explore the factors, which constrain or enable the value creation possibilities of mentoring in environmental organisations, HCT was also found to be incompatible as a theory.

Vally and Motala (2015) set out to reveal the limitations of reductionist economic approaches to theory, in particular HCT, as a dominating discourse of education's role in society. According to Vally and Motala (2015), there is wide consensus that Schultz (1971) and Becker (1964) established the theory, with a view of education as an investment. As mentioned, mentoring described through the lens of HCT is seen as a mutually beneficial exchange or "reciprocal transaction" (Ehrich et al., 2001, p. 6). In Siphelo Ngcwangu's development of a theoretical framework for the study of South Africa's skills development system, he found the use of HCT to be "an approach that privileges market based ideologies, conceptualized change in a linear fashion particularly in relation to the labour market and reduces the value of education to a return on investment" (2015, p. 10).

As a research project in the discipline of education, Vally and Motala's (2015) arguments were useful to better understand the inability of HCT to explain mentoring as a value-creating proposition for environmental organisations. Value creation as a return on investment is fundamentally incompatible with this research for many reasons. Research that evolved from the establishment of HCT assumes that education benefits individuals, the economy and increases productivity. The result is that international dialogue is dominated by the idea of a

'knowledge economy' without consideration of other factors of the social role of education in society. HCT only considers social factors such as skills and knowledge, as being beneficial to productivity (Vally & Motala, 2015). In Thomas Picketty's (2014) expansive exploration of income over history, he identified factors of convergence and divergence. Piketty also stated that the human capital hypothesis is largely "illusionary" (2014, p. 22) and preferred to examine factors of convergence. Convergence is related to the distribution of knowledge and skills.

> The crucial fact is that no matter how potent a force the diffusion of knowledge and skills may be, especially in promoting convergence between countries, it can nevertheless be thwarted and overwhelmed by powerful forces pushing in the opposite direction, toward greater inequality.
>
> (Piketty, 2014, p. 22)

These powerful forces, such as policy, access, institutional factors and the right skills (Piketty, 2014), are contextual and are not considered in human capital theorising despite how vastly different these may be in different countries and how these factors influence change or even economic growth. HCT fails to acknowledge how contextual factors influence society. HCT would thus not be suitable for an exploration of the factors, which constrain or enable the value creation possibilities of mentoring in environmental organisations.

In considering the skills development policy landscape in South Africa, Vally and Motala stated that "education and training is not simply a handmaiden resolving the problems of low economic output" (2015, p. 32). Ngcwangu (2015, p. 13) described how our policies in South Africa are "products of power and ideology". In the post-apartheid era, policy on education and skills has been developed on the advice of capitalist international entities. Power resources such as finance and international acceptance have strongly influenced policy (Ngcwangu, 2015). South African education and training policy development has been influenced by HCT and "this dominating approach to education's instrumental role in economic systems has come to be taken for granted – uncritically" (Vally & Motala, p. 30). However, there was one policy (the Human Capital Development Strategy for the Environment Sector) that sought to critically engage with the limitations of the existing policy discourse in South Africa which I explore further one in this section. Acknowledging the influence of HCT within South African policy and thus its organisations was important, but also raised red flags in terms of its use for this research. HCT has worked off the existing individualistic and instrumentalist economic ideas and bases that dominate global education discussions (Vally & Motala, 2015). HCT has been influenced by Neoclassical Economic Theory, which disregards the social and views

economics as “strangely remote from the structural changes associated with industrialization and the turmoil of economic crises that beset the capitalist system during the second half of the nineteenth century” (Cahill & Paton, 2011, in Vally & Motala, 2015, p. 29). These instrumentalist views are in fact “based on unjustified claims about the outcomes of education and skills in capitalist societies” (Vally & Motala, 2015, p. 31). HCT thus appears to be a contested and problematic theoretical approach for this research.

While Groen Sebenza aimed to contribute to the employment and job creation of youth in environmental organisations as a potential economic benefit for South Africa, its primary purpose was about caring for people, particularly previously disadvantaged youth, through their workplace learning that is caring for the environment. If Groen Sebenza was to achieve its goals of youth being suitably mentored to secure permanent work opportunities in the environmental sector, an individualistic theoretical perspective (HCT) would appear to be problematic for the initiative’s common good purpose. Reductionist economic approaches that view education as essentially an investment of capital are possibly contradictory with education research on mentoring in environmental organisations through Groen Sebenza, in post-apartheid South Africa.

Ngcwangu (2015) explained movements in the South African skills development landscape that informed my understanding of HCT and its influences on skills development policy in South Africa. Neoliberalism did not offer a suitable alternative. The neoliberal turn in South Africa restructured learnerships away from apprenticeships and technical training and together with an outcomes-based education framework, resulted in decreasing skills development of labour (Ngcwangu, 2015). The skills development policies then became “largely regulatory rather than being strongly interventionist” (Ngcwangu, 2015, p. 22). Within the field of environmental education, Lotz-Sisitka’s (2016, p. 215) review of critical theory for education for sustainable development explained: “The spread of liberalism and neo-liberalism do not allow for the degree of intersubjective agreement that would be required for the forms of common good praxis to emerge that a more just and sustainable society seems to require”. Theory to explain the value creation possibilities of mentoring as economic gain was not suitable. Theory to explain the value creation possibilities of mentoring for the emergence of a common good praxis for a more just and sustainable society was more suitable.

I viewed mentoring in environmental organisations, in post-apartheid South Africa as a common good cause and environmental education research aligns with this cause. The policy informing the development of Groen Sebenza and skills development in the environmental sector in South Africa, while operating within HCT discourse dominated policy landscape, had a purpose of sustainable development and environmental management. The Department of Environmental Affairs who are responsible for the Human Capital Development Strategy for the Environmental Sector (DEA, 2010) and the Human Capital Development Strategy for the Biodiversity Sector (BHCDS, 2010) have a legislative mandate that emphasises "a people-centred approach to environmental management and sustainable development of society" (BHCDS, 2010, p. 22). The Human Capital Development Strategy for the Environmental Sector arose out of the "constitutional imperative for a clean, healthy environment that benefits current and future generations, and the impetus to strengthen opportunities associated with a green economy for South Africa" (DEA, 2010). The Human Capital Development Strategy for the Environment Sector (DEA, 2010, p. 1) seemed to begin to critically engage with the limitations of the existing policy discourse in South Africa through consideration of factors that constrain skills development through a systems approach:

> Throughout the Delivery Agreement, there is mention made of the need for specific skills development initiatives to ensure a sustainable supply of the necessary skills required for implementing the targets of the agreement, indicating a systemic need for giving attention to the issue of skills development. However, as in most other environmental sector plans, specific skills are identified for specific shorter term targets, with inadequate attention given to the systems needed to ensure such skills development – both in the short and longer term. This HCDS therefore provides a more holistic and systemic approach to dealing with the skills demands that are identified in the Delivery Agreement for Outcome 10, as well as the Strategic Plan for the Environmental Sector (2009-2013). The DEAT Environmental Sector Skills Plan (DEA, 2010) findings are relevant here, as they indicate the need for a systemic approach to addressing human capital development needs for the environmental sector.

HCT was inadequate for exploring the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations. HCT would also be considered inadequate for environmental education research in post-apartheid South Africa with a common good cause. In environmental education research in South Africa, critical education theory offered an alternative for exploring social and structural change and has foundations in Marxist process theory (Lotz-Sisitka, 2016). Marx examined and critiqued capitalism and its underlying mechanisms (Ngcwangu, 2015). In the post-apartheid era, democracy and transformation were and continue to be, essential to the evolution of a society arising from colonialism, segregation and oppression. Some education and skills development research in

South Africa turned to a social democratic political philosophy incorporating capabilities, agency and social justice perspectives (Ngcwangu, 2015). Within this context, critical education theory aligned and "emerged within an expanding democratization and widening imperatives for transformation that developed with a succession of global environment, social justice and sustainability education initiatives (UNESCO) into the latter part of the 20th Century" (O'Donoghue, 2018, p. 24).

> Critical theory came to be constituted as a research paradigm and was positioned in contrast to positivism and as an expansion of interpretive research. It was reflected as a situated and standpoint disposition for co-engaged research and learning that had an emancipatory and transformative intent. In this way, critical theory in environmental education was constituted as a reflexive critical process that enabled us to design research and develop pedagogy for emancipatory empowerment and transformation in response to the marginalizing and oppressive legacies of apartheid.
>
> (Lotz-Sisitka, 2016, p. 210)

Critical theory and its uptake in environmental education research provided a foundation for "social methodology for achieving the aims of social criticism and democratic practice" (Lotz-Sisitka, 2016, p. 214). Within this methodology, a common good purpose could find its place through the questioning of values and understanding of different perspectives and views (Lotz-Sisitka, 2016). Research in the value creation possibilities of mentoring in environmental organisations needed to consider the questioning of values and understanding of different perspectives and views. A deeper understanding of the underlying contextual factors that influence mentoring in South African organisations was also seen to be important.

> We can fail in our capacity to provide substantive insight into the deep seated underlying generative mechanisms that hold the problems in place, and we can fail to provide substantive insight into 'doing anything' about the underlying causes and structural factors shaping the problem we are being critical about at a more surface level.
>
> (Lotz-Sisitka, 2016, p. 216)

From existing research and policy (DEA, 2010; BHCDS, 2010), we know that organisations in the South African environmental sector are small, under-resourced and have limited mentoring capacity. This research had to consider underlying factors which constrain or enable the value creation possibilities of mentoring in environmental organisations as generative mechanisms in order to inform future initiatives for mentoring in the sector. By understanding how and why environmental education research in South Africa has turned towards critical theory, I was able to understand better why HCT simply could not fulfil the purposes of my research and its field.

I was also able to better critique other theories, especially the most commonly used theories within the literature and studies of mentoring.

I will return to discussion on critical theory in selecting a suitable specific theory that explains generative mechanisms and for a common good purpose further on in the chapter. I then turned to another trend identified across the different literature reviews (see Table 2) and the most commonly used theory of mentoring. Ehrich et al.'s (2001) exploration of business studies showed that when theorising mentoring, these studies used theories from a wide range of disciplines, not only economics. However, even among a diversity of disciplines, Ehrich et al. (2001, p. 7) found that "there was evidence, in the form of a citation, in 42.4% (or 64 out of a pool of 151) of the articles of an awareness of the seminal work of Kram (1985)". Ragins and Kram (2007, p.10) stated that "most research over the last 20 years has been based on Kram (1985)'s theoretical work" and that it "continues to offer a solid theoretical foundation for mentoring scholarship". If Kathy Kram's (1985) theory was regarded as seminal in theorising mentoring, it definitely required some deeper exploration and consideration.

2.3.2 Kram's (1985) theory of mentoring

Dominguez and Hager (2013) and Scandura and Pellegrini (2007) viewed Kathy Kram's theory on mentoring phases, mentoring roles and psychological and career functions as a developmental theory in the field of mentoring. Despite research on mentoring in the South African organisational context being limited (Shelton, 2006; Hattingh, Coetzee & Schreuder, 2005; Stone & Coetzee, 2005), most of the existing research on mentoring in South African organisations that I reviewed referred to Kram's book *Mentoring at Work: Developmental relationships in organizational life* (1985). It is important to note that Kathy Kram's (1985) phases of mentoring was used in the mentoring and support efforts and engagements for Groen Sebenza (Geber, 2014 and Gondwana Alive, 2015 in section 1.5.2.3). The phases of mentoring included initiation, cultivation, separation and redefinition of the relationship between the mentor and mentee.

Hattingh et al. (2005) investigated the best practices of implementing and sustaining formal mentoring programmes in South African organisations (in the financial services, professional services and health care industries) and used Kram (1985) to define mentoring. Stone and Coetzee (2005) investigated women mentees' challenges in two South African information

technology organisations and used Kram (1985) to discuss their findings of diversity and mentoring relationships. Janse van Rensburg & Roodt (2005) developed a normative instrument for assessing the role of mentoring in South African organisations, using Kram's (1985) phases of mentoring. Shelton (2006) evaluated formal mentoring programmes in two South African organisations (a higher education institution and a trading company) using programme evaluation models together with a mentoring model theorised using Kram (1985). Hilary Geber (2004) developed a model of mentor functions and roles that builds on Kram's (1985) career and psychosocial functions to include aspects of cross-cultural mentoring in academic settings in South Africa. This model has been used in Geber and Nyanjom's (2009) research on reflective practice and the learning and development of mentors in higher education in Botswana. It has been used in research on a South African youth volunteer programme implementing a mentoring system in science centres (Geber & Koyana, 2012). This *transformational mentoring model* was also used within the environmental sector, to develop and research training for mentors in the South African National Biodiversity Institute's (SANBI) Early Detection and Rapid Response Programme (Ivey et al., 2013).

Kram's (1985, p. 22) two categories of mentoring functions are defined as:

1. Career functions – "those aspects of the relationship that enhance learning the ropes and preparing for advancement in an organization".
2. Psychosocial functions – "those aspects of a relationship that enhance a sense of competence, clarity of identity and effectiveness in a professional role".

Geber found that when using Kram (1985)'s career and psychosocial mentoring functions, there was not consideration of external factors of mentoring such as race and gender as "environmental forces, which help or hinder change and transformation through mentoring" (Geber, 2004, p. 260). Dominguez and Hager (2013) also noted the lack of diverse representations of the mentee, gender or race within developmental theories such as Kram (1985). These are important factors to consider when researching organisations in a post-apartheid South African context where "organizational transformation towards equity, is a national agenda" (Geber & Nyanjom, 2009, p. 896).

Geber (2004) expanded the mentor functions of Kram (1985) to include additional career development and psychosocial functions as a "synthesis of the mentor's roles and functions" identified in her literature review (Geber, 2004, p. 182). Geber included aspects of mentoring

identified in the findings of her study (2004, p. 182):

- Resentment of non-participating peers who come from previously disadvantaged groups;
- The perception of formal equity development mentoring programmes as remedial;
- The prevalence of negative stereotypes of previously disadvantaged persons; and
- Damaging innuendo and rumours.

These findings were articulated as mentoring functions and roles in academic cross-cultural mentoring contexts: "managing the transition from student to colleague; preventing exploitation and managing diversity and prejudice" (Geber, 2004, p. 264), as depicted in her transformational mentoring model below (Figure 15). Additionally, Geber included the function of mentors as role models and change agents, as a key strategy for transformation in South African higher education institutions (Geber, 2004, p.263).

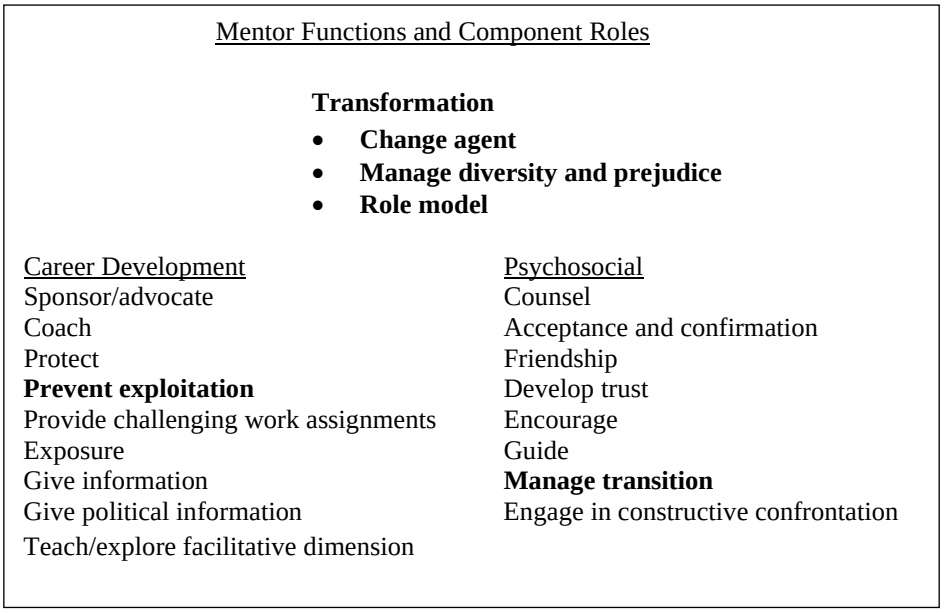


Figure 15: Transformational mentoring model of Geber (2004)

This model was used in subsequent studies involving Hilary Geber. Geber and Nyanjom (2009, p. 896) described Geber's (2004) transformational mentoring model as "an indigenous African model important for considering organisational and social transformation". In research on SANBI's Early Detection and Rapid Response Programme, the model was used to understand the challenges facing black scientists requiring mentoring (and with predominantly white mentors) to "negotiate the implicit customs within an institution" – usually with "Eurocentric and Western values and cultures" (Ivey et al., 2013, p. 88). Geber's consideration of 'external

factors' within the context of organisations in a post-apartheid South Africa and towards a national agenda of transformation would align with an exploration of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations.

Fundamentally, the alignment of the above model lies within theory (Kram, 1985) that has been critiqued by Scandura and Pellegrini (2007) for portraying mentors as playing the role of the more experienced and knowledgeable guide in one on one, hierarchical relationships. While Geber (2004) viewed the "development of mentors and mentees in a reciprocal way where cultural and ethnic diversity informs the learning of all participants to dispel the effects of racial discrimination and Apartheid" (Ivey et al., 2013, p. 89), her model still aligned with a view on mentoring that is contradictory to the transformative requirements and values she aimed to uphold. She simply added the mechanisms that do align with the contextual requirements and values of her research to this contradictory theoretical framework of Kram (1985). Kram (1985 p. 23) stated: "when a hierarchical relationship provides all of these functions, it best approximates the prototype of a mentor relationship".

Geber aimed to ensure learning of all in the mentoring relationship and Geber and Nyanjom (2009, p. 896) described the transformational mentoring model as "establishing learning alliances for professional development and a commitment to social and organisational change". Yet her model was based on the mentoring roles and functions of Kram (1985), which were broad categories of 'external' factors of career development (e.g. sponsorship, coaching, protection, exposure) and 'internal' factors of psychosocial development (e.g. counselling, role modeling, friendship). These categories offered no detailed explanation of the internal cognitive aspects of mentoring in the psychosocial development roles and functions, or the connection to others in the career development roles and functions. There was also no consideration of how these two categories interact with each other – Kram considered these categories as distinctly separate. Deeply understanding the value creation possibilities of mentoring (involving the mentor(s), mentee and organisation(s) through Groen Sebenza*)* was important.

As research located in the education field, the above contradictions were problematic for the aims of the research. Further concern was raised with Ehrich et al.'s (2001, p.7) exploration of business studies and education studies of mentoring which noted that "educational researchers

made virtually no mention of the framework advocated by Kram". Geber's development of Kram's (1985) model for the higher education context is thus odd as the model is lacking in consideration of learning processes regarding the psychosocial and career functions and their interaction, or the lack thereof. As a transformational mentoring model, one would expect learning process to be key to any kind of change or transformation, particularly in the contexts within which it is intended. For the purposes of informing human capacity development initiatives focussed on mentoring in the environment sector, I would have to consider learning processes and thus learning theories.

I needed to start moving towards learning theory that allowed for consideration of multiple perspectives and views. I considered this to be important for research with a common good purpose that was addressing transformation through mentoring in South African environmental organisations. Dominguez and Hager (2013) highlighted that the use of learning theories in mentoring research and literature introduced mentoring relationships as being co-constructed. This view on mentoring relationships stood in contrast to developmental theories, such as Kram (1985), who describe mentoring as being a one-on-one hierarchical relationship. Learning theory for this research would also need to provide better explanation than Kram's categories of 'external' factors of career development and 'internal' factors of psychosocial development for examining: the internal cognitive aspects of mentoring as a learning process, the connection to others as a learning process and the interaction of these aspects within South African environmental organisations.

2.3.3 Learning theories and mentoring

There are many different learning theories used in the mentoring literature – see Table 2. When looking at the commonalities across two literature reviews, I found that both Dominguez and Hager (2013) and Ehrich et al. (2001) (in educational studies) identified behaviourist theory, cognitivist theory, constructivist theory and adult learning theory in their reviews. Social learning theory and apprenticeship models were also common in both; however, different authors are referenced within the reviews.

After my initial explorations of the literature and as I began to critique learning theory for mentoring and move towards a suitable specific theory, it was interesting to note that in Hager's (2011) historical exploration of the development of theory in the field of workplace learning,

he found that early theories were mainly influenced by organisational, cognitive psychology and management theory. Early theories in the field of workplace learning focused on learning as a product or 'thing' with the individual as the unit of analysis for understanding learning and learning as independent of context. I identified similarities in the evolution of learning theory in the mentoring literature. I examined behaviourist theory, cognitivist theory, constructivist theory, adult learning theory, apprenticeship and social learning theory.

Between the 17th and 19th centuries, the industrial revolution and technology advancement stimulated interest in development and learning in the modernisation process. Around this time the behavioural psychology of Ivan Pavlov and B.F. Skinner became an influence on learning and teaching, with a focus on observable behaviour changes (Blackmore et al., 2011). The use of behaviourist theory in mentoring research focused on mentors helping learners to attain a set of behavioural goals or outcomes during their learning experience (Dominguez & Hager, 2013). As I identified in my critique of HCT, understanding learning as a "set of competences and proficiencies an individual acquires" (Ramaswami & Dreher, 2007 in Dominguez & Hager, 2013, p. 178) was inadequate for this research with its common good purpose and need for deeper contextual understanding.

During the 20th century, a shift to individualised views of learning occurred with the influence of cognitive psychology through Piaget and Bruner. Change and the mental processes that take place within the learner became the focus (Blackmore et al., 2011). In the mentoring literature, cognitivist theory focused on the individual, the internal cognitive processes and reflection of the experience of the individual as learner (Dominguez & Hager, 2013). This learner-centred approach to mentoring emphasised mentors and learners adapting learning processes for the learner (Dominguez & Hager, 2013). I had already established that Kram (1985) offered no detailed explanation of the connection to others as a learning process and that my research must be able to account for this.

Stephen Billett's (2003) research on workplace mentors found that most literature on mentoring does not focus on the mentors, but on factors and approaches relating to the learner. Billett (2000) researched mentors' experiences, revealing very different experiences and outcomes pertaining to different mentors and thus identifying a need to research the workplace experiences and constraints of mentors. Individualised views of learning would not be suitable for understanding mentoring in the context of this research, as there were multiple mentors and

learners who are part of Groen Sebenza and the environmental organisations involved to consider.

In examining the theoretical basis of his research, Billet argued that "everyday participation in work activities made the strongest identifiable contribution to the mentees' learning" (2000, p. 277). Billet (2000) applied a constructivist view of learning to describe learning as not being separate in terms of thinking and acting. He described how everyday experience in workplace activities results in knowledge construction. Social constructivism was influential during shifts to democracy and the democratisation of knowledge in the 20th century. Vygotsky theorised the mediation of language and culture through learning and was the beginning influence of early social constructivist theory (Blackmore et al., 2011). Billet's (2000) argument also suggested that some learning from workplace experience enabled practices that were inappropriate, constraining and even dangerous. Some workplace knowledge is often "hidden" or "not readily accessible", while also being crucial for "understanding the bases of work tasks" (Billet, 2000, p. 273). However, it is not gained through workplace experience alone. Some guidance in learning is required. Dominguez and Hager (2013) described how adult learning theory did shift guidance in learning "from the mentor's traditional authoritarian role to a facilitator role, where mentor and mentee engage in a mutual learning process" (Dominguez & Hager, 2013, p. 175). With adult learning theory the mentor ensured "self-directed learning" by the learner (Dominguez & Hager, 2013, p. 175). However, as Billet (2000) argued, direct guidance away from inappropriate practices and towards knowledge that is not easily accessible, is necessary. These insights started to guide me towards the kind of learning theory that could explain my research.

An important finding was that Billet (2000) used the early work of Jean Lave (1990) to describe how more experienced mentors guide learners, through learners observing their practice or standards of performance. Everyday activities in the workplace that mentees participate in, together with indirect and direct guidance, observed or listened to, form a "learning curriculum" through a "guided learning" approach introduced by Billet (2000 p. 279). The components of this learning curriculum are often embedded in the workplace (Lave, 1990). Anne Edwards (2005) explains that in Lave's early work she required theory "of the social actor in action in the lived-in world as a basis for developing a more adequate model of cognition in cultural context" (Lave, 1988 in Edwards, 2005, p. 56). Being able to focus on the everyday workplace settings of mentoring was important to understand what is enabling or

constraining the value possibilities of mentoring in organisations. As Edwards (2005, p. 57) states "she encourages us to fix our analytic lenses on the structuring environment and how it produces or allows certain ways of participating and the construction of particular identities". Jean Lave then began to explore learning as peripheral participation in practice with a community with Etienne Wenger in Lave and Wenger (1991).

In Billet's (2001) *Learning in the Workplace*, he explored guided learning in the workplace, as a workplace curriculum model, where a more experienced worker contributes to the development of a less experienced worker's workplace practice. The workplace curriculum model on guiding learning used Lave and Wenger (1991) to form a "pathway of activities which takes a learner from being a novice through to being an expert in the work practice – from peripheral to full participation" (Billett, 2001, p.17). According to Hager (2011, p. 24), Lave and Wenger (1991) offered a breakthrough in workplace learning theory and "distinctive socio-cultural alternatives to traditional assumptions". Workplaces as communities of practice with novices entering the learning process of 'legitimate peripheral participation' to enter a community of practice as a member, stood in contrast to learning as: a product or gaining a set of competences (Hager, 2011). Learning took place outside of the individual and into "participation within a network of relations" and learning to function in a "particular social, cultural and physical environment" (Hager, 2011 p 24).

2.3.4 Mentoring as a situated learning process of legitimate peripheral participation

Jean Lave's (1990) work focused on the guidance of learners by more experienced workers and their observation of practice. This work was followed by the collaboration of Lave and Wenger (1991) that attempted to "rescue the idea of apprenticeship" through the development of a theory of situated learning (Lave & Wenger, 1991, p. 29). While a one-on-one hierarchal view of mentoring has already been identified as inadequate through critique of Kram (1985), Lave (1990) and Lave and Wenger (1991), introduced legitimate peripheral participation (LPP) as a theory of learning that links cognitive processes and social practice, with learning as a characteristic of this connection. The critique of Kram (1985) acknowledged the need to explain the internal cognitive aspects of mentoring and the connection to the social world, as well as their interaction.

Lave and Wenger (1991) went beyond internalization where there was “no account for learning in the context of the structure of the social world” (Lave & Wenger, 1991, p. 48). They went beyond the knowledge domains, acquisition and assimilation of individualistic and cognitive aspects in learning to rather focus on participation with the social world as central. The focus shifted to the individual in the world as a member of a community. Lave and Wenger (1991) saw learning as participation in communities of practice and an individual acting in the social as a whole. This was useful when considering mentoring between a mentor/s and mentee/s; within a host environmental organisation, possibly with rotating mentoring between host organisations, as planned in Groen Sebenza (see Figure 16), which was located within and was developed for the environmental sector (in response to the Human Capital Development Strategy for Biodiversity).

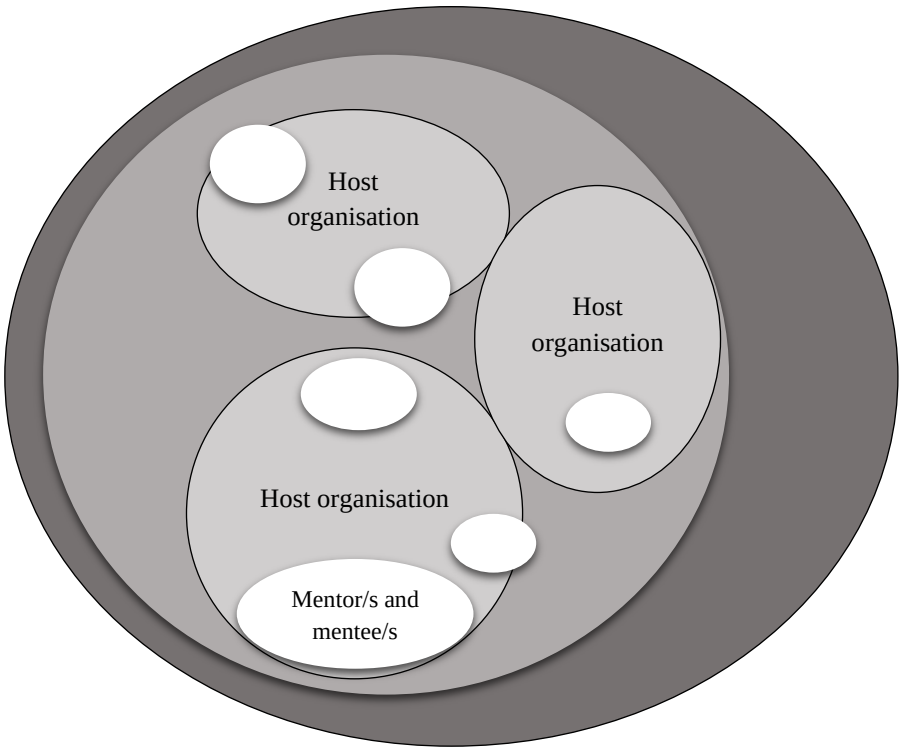


Figure 16: Communities of mentor/s and mentee/s within host organisations in Groen Sebenza (Source: Author)

Lave and Wenger viewed learning as being a crucial part of practice (Lave and Wenger, 1991). As a theory of social practice, LPP was intended for the “exploration of concrete relations”; “an analytical perspective” and “a way to understand learning” (Lave and Wenger, 1991 p. 39-40). Learning through LPP was about the mentee being involved in new activities and gaining new understandings that are part of a “broader systems of relations in which they have

meaning", in social communities (Lave and Wenger, 1991 p. 53). The purpose of Groen Sebenza was about "giving participating youth workplace experience through a structured mentoring programme, together with skills development and training opportunities" (SANBI, 2014a). Additionally, the objectives of Groen Sebenza extended to: "exploring work opportunities in biodiversity to find their niche in a broad spectrum of possibilities; and networking across the sector to enable access to work opportunities on which to grow and develop their careers in ecosystem management" (SANBI, 2013). Learning as LPP was a way of becoming a social member with an identity and knowledge through participation in communities of practice and the relations within (Lave and Wenger, 1991). The alignment of the theory of learning was apparent and it could also assist to understand learning in the context of the purposes and objectives set out to be achieved through Groen Sebenza. This was also useful for informing human capacity development initiatives focused on addressing transformation through mentoring in the environment sector.

In considering mentoring and young peoples' participation in the workplace, Lave and Wenger (1991 p.51) explain participation as "situated negotiating and renegotiating meaning in the world". Participation with the social world was central to LPP with the individual in the world as a member of a socio-cultural community (Lave and Wenger, 1991). Thus, one can examine beyond only the mentor and intern and consider participation and identity as it changes through participation in a community of practice. Lave and Wenger (1991 p. 57) described participation and identity changes as: newcomers entering, who become 'old-timers' to newer 'new-comers', who then become old-timers through participation in the community of practice. This allows for understanding beyond only mentor-mentee, but of "a richly diverse field of essential actors and, with it, other forms of relationships of participation" (Lave and Wenger, 1991 p. 57). Lave and Wenger (1991) offered observations of various apprenticeship stories as objects of analysis, to explain different aspects of LPP, including participation and knowledgeability. They outline the key characteristics of apprenticeship as LPP.

Billet (2001 p. 63) described how Lave and Wenger (1991)'s research on apprenticeship learning offered insight into participation as a learning process and the connection between learning and identity formation. Similar to apprenticeship experiences described by Lave and Wenger (1991), my research participants could be characterized as apprentices; young masters with apprentices; masters whose apprentices have become masters; as well as journey-folk (not yet masters, relative old timers) and near-peers (as described by Lave and Wenger, 1991). Lave

and Wenger (1991) described diverse relations within and across cycles, not only hierarchal one-on-one learning relationships. They also described the "importance of near-peers in the circulation of knowledgeable skill" (Lave & Wenger, 1991, p. 57). The location of interns and mentors illustrated in Figure 16 presented learning opportunities between interns/mentees as 'near-peers'. Lave and Wenger (1991, p. 29) presented a way of explaining how the learning of the pioneers (as they move "toward full participation in the sociocultural practices of the community" and LPP) included not only the relations of the mentor as old-timer and pioneer as newcomer, but the relations of the pioneer, other pioneers and other staff, including interns, who were newcomers (as near-peers).

After Lave and Wenger (1991), Etienne Wenger's book *Communities of Practice: Learning, meaning and identity* (1998) described the purpose of his work with Jean Lave in Lave and Wenger (1991) was to share the strength of apprenticeship as a learning process using the concept of LPP.

> We wanted to broaden the traditional connotations of the concept of apprenticeship – from a master/student or mentor/mentee relationship to one of changing participation and identity transformation in a community of practice.
>
> (Wenger, 1998, p. 11)

LPP offered a useful account of mentoring that could be used in my research, not limited to the internal cognitive aspects of mentoring, or mentoring as a one-on-one hierarchal learning process, but also considering the connection to others through changing participation and identity in a community of practice that was not evident in the theories examined. As legitimate peripheral participants the Groen Sebenza interns, as apprentices, learn through on-the-job experience with more experienced mentor/s.

2.3.5 Mentoring in communities of practice

Hughes (2007) described CoP as being taken up as both theory for analysis and prescribed theory for how learning should take place. The academic strength of the theory as a model of learning for analysis has at times been lost in the pursuit of achieving 'communities of practice'. The important thing to note was that Lave and Wenger's (1991) intention was "to establish a more adequate approach to understanding learning, one which could help facilitate a paradigm shift: a move from viewing learning as 'acquisition' and towards understanding learning as 'participation'" (Hughes, 2007, p. 38). For my research I would want to retain the strengths of

CoP for analytical purposes and for understanding learning through mentoring as participation and so would need to tread carefully in further readings and theorising of mentoring. Hughes (2007, p. 39) reiterated that the concept of CoP needs further development and as an academic I should include "rigorous dialogue between theory and research" when working with CoP.

In South Africa, Carmen Oltmann's (2009) PhD research on a South African mentoring programme for pharmacy students in university used CoP as a theoretical framework to explore how mentoring facilitates access to a CoP (which were groups of mentors and mentees in a Pharmacy Faculty). Oltmann did not interrogate the theory and accepted CoP as the structure for defining mentoring groups and learning as it "ought to be" was taken for granted rather than revealing "learning as it actually is" (Hughes, 2007, p. 32). She used Wenger (1998) and some of his later work in the business fields to characterise these mentoring groups that she had researched as CoPs. She is not alone as Hughes (2007) has pointed out that consultancy practitioners too have extensively used Wenger (1998) as the communities of practice model became popular. Wenger, McDermott and Snyder's (2002) book on cultivating communities of practice gained further popularity. LPP less so. The further development of the theory as a "*consultancy movement*" and "*commoditized learning*" (Hughes, 2007 p. 37) was thus not suitable for explaining the object of my research.

Wenger's (1998) exploration of what identifies CoPs in more detail is still useful (Hager, 2011, p. 24). Hager (2011, p. 24) noted that LPP did not offer explanation of an individual's learning as their "personal identity changing as they move from novice to full participant". Hager (2011) also noted that the community of practice idea was rather unclear in Lave and Wenger (1991) in order for it to be applied widely. Wenger's (1998) subsequent theorising of communities of practice as the unit of analysis warranted further exploration for the development of a theoretical framework for my research. However, unlike Oltmann (2009), I hoped to take the approach of a depth of analysis, theoretical description and critique that understands the possible inadequacies of CoP, retains the early strengths of LPP and builds a suitable theoretical lens for explaining the object of my research.

2.3.5.1 Mentoring as learning through social participation

Wenger's (1998) theoretical offering focused on learning as social participation through the interaction of practice, meaning, community and identity. The contribution of theorizing to research on mentoring in organisations is articulated clearly in Fuller and Unwin (2011):

> Conceiving learning as a social process is powerful not only because it can account for learning which takes place in diverse settings but also because it provides a basis for understanding learning at the collective level. This is particularly important in relation to studies of the workplace learning where the extent and quality of the opportunities for participation (learning) available are influenced by the character and structure of the social relations being produced and reproduced by the organizational context.
>
> (Fuller & Unwin, 2011, p. 51)

Fuller (2007) mentioned that Wenger (1998) offered a range of indicators related to the concepts of practice, meaning, community and identity. I wondered if these concepts could help me explore the value creation possibilities of mentoring in environmental organisations.

Wenger (1998, p. 47) described practice as "doing in a historical and social context that gives structure and meaning to what we do". Practice included both tacit and explicit factors that could be part of an organisation. Explicit factors include a way of speaking, tools, rules, materials, etc., while tacit factors (which are often overlooked) could be: worldviews, undocumented or spoken rules, relationships, assumptions, intuition, etc. The social and negotiated nature of these tacit and explicit factors through mentoring are able to explain what workplace practice the interns are learning in the environmental organisations.

Wenger (1998, p. 49) described the "social production of meaning" as the "level of analysis for talking about practice". Wenger (1998) conceptualised meaning through concepts of:

- Negotiation of meaning,
- Participation, and
- Reification.

The process of negotiation of meaning that he describes could be used to identify and explain how the research participants were experiencing their time in the organisations and whether this was meaningful to them. Wenger (1998, p. 53) provided further description of this meaningful existence, through engagement in the world and social relations as being dynamic and historical; including resistance and malleability; where one can be affected and affect;

including engagement with a variety of perspectives and factors and therefore new resolutions (which can be incomplete resolutions).

Wenger's (1998) conceptualising of participation offered insight into an intern, for example, becoming a member of a community of practice during their time with the organization. This could help with understanding the process of interns taking part in the workplace; and their relations with others reflecting this taking part participation process; which suggests both action and connection. The same goes for a mentor's experience of mentoring. Wenger (1998) viewed participation as personal and social. This is how an identity is formed and goes beyond just what specific workplace practice they are learning from one mentor through mentoring, for example. "Participation goes beyond direct engagement in specific activities with specific people. It places the negotiation of meaning in the context of our forms of membership in various communities. It is a constituent of our identity" (Wenger, 1998, p. 57).

Wenger (1998) has described reification as a process of the development of an object of certain practices, for example: a written report or a job description or title. Reification reflects practices and a point where the negotiation of meaning has become organised. Developing writing skills, for example, becomes the focus for negotiation of meaning. The convergence and interplay of participation and reification is how negotiation of meaning takes place (see Figure 17). Together they form a duality, which requires some degree of balance. This is useful for considering mentoring in an organisation and the balance between developing objects of practices through mentoring, such as writing a scientific report and participating in mentoring activities where one feels like a member of a community (during fieldwork time with a mentor and colleagues, for example).

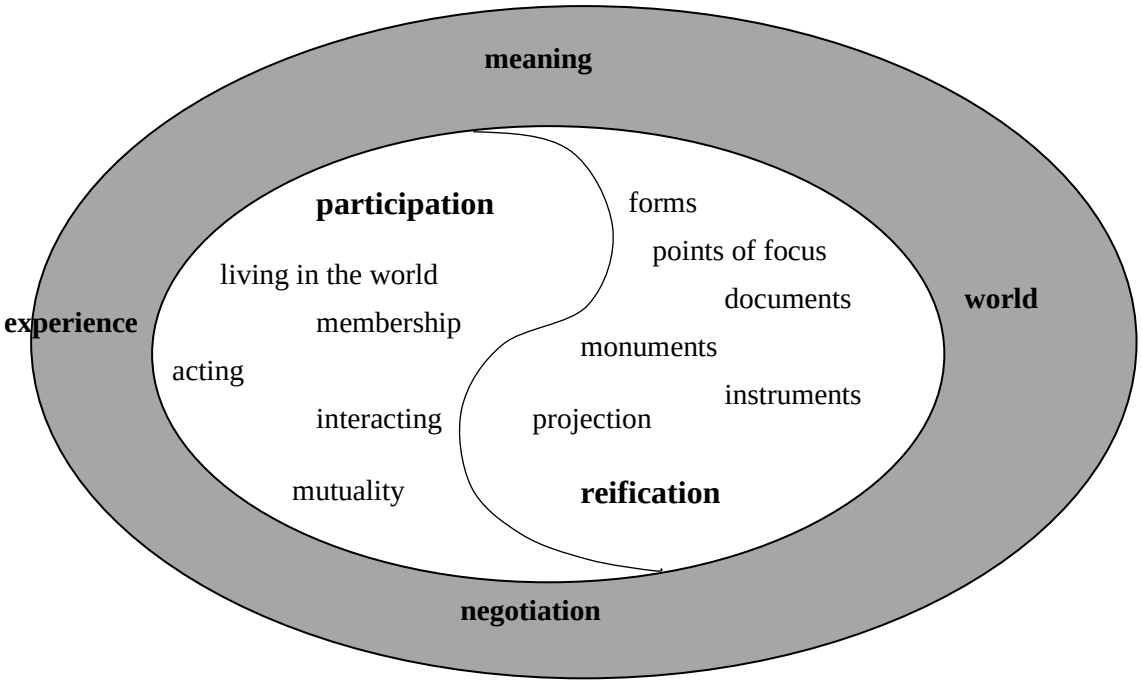


Figure 17: The duality of participation and reification (Source: Wenger, 1998, p. 63)

The interns are thus becoming members of a community of practice within the organisation through mentoring by developing their practices and participating in the community. Wenger (1998) associated practice with community as a "source of coherence", through "mutual engagement, a joint enterprise and a shared repertoire of ways of doing things" (Wenger, 1998, p. 49) described in further detail in section 2.3.5.2 and explored in Chapters 4 and 5.

2.3.5.2 Mentoring as learning through mutual engagement, a joint enterprise and shared repertoire

According to Wenger (1998), mutual engagement is important for considering whether there is enabling engagement taking place, whether there is diversity in the engagement and whether mutual relationships around practice are in place, to determine membership into a community of practice.

Considering whether mentoring has enabled a joint enterprise to be negotiated collectively and if such a joint enterprise is 'owned' by the community and taken its own shape is important (Wenger, 1998). I consider whether the research participants were responding to certain conditions in the organisation, in Chapters 4 and 5. Wenger (1998) explained that the

negotiation of this joint enterprise together as a community leads to relations of mutual accountability among the participants, and thus a communal regime of mutual accountability.

This regime of accountability is a critical part of practice, where what is important to members or not, has been negotiated. The members have defined the circumstances that are acceptable or not. It would be useful to identify where the regime of accountability has been reified and research participants have developed an interpretation of the reified enterprise through mentoring. “Being able to make distinctions between reified standards and competent engagement in practice is an important aspect of becoming an experienced member” (Wenger, 1998, p. 82).

Drawing on those insights, I could consider whether research participants have a shared repertoire with “both reificative and participative aspects”, such as terms, tools, symbols, gestures, concepts (Wenger, 1998, p. 83). Expressions of identity as a member in a community of practice as well as discourse could provide evidence of a shared repertoire. This repertoire indicates a history of mutual engagement, but not necessarily meaning, although meaning is possible, it is ambiguous (Wenger, 1998). I could explore how mentoring is coordinating this ambiguity in a history of mutual engagement to allow opportunity for negotiation. The shared repertoire of a community creates opportunity for “dynamic and interactive” negotiation of meaning. Consideration of mentoring as dynamic form of coordination that enables engagement in shared practice was useful (Wenger, 1998, p. 84).

According to Wenger (1998), a CoP is a system of interrelated forms of participation with discontinuities. Newcomers join, relations shift, newcomers become old timers and there are effects with new identities being formed. Reifications, such as a new mapping system, also cause discontinuity – some systems or tools may fall away. In my research, through the lens of CoP, I could look to identify the following ongoing processes of learning between participants in Chapter 4 and 5:

- evolving forms of mutual engagement;
- understanding and tuning enterprise
- and developing a repertoire, styles and discourses (Wenger, 1998, p. 95).

In summary, evolving forms of mutual engagement could be revealed through the research as, for example, how an intern is figuring out who does what in an organisation and what has enabled her to be able to network, who she works closely with. Understanding and tuning into the enterprise could be, for example, mentors meeting weekly with interns and disciplining each other on attendance. Or interns struggling to define what their role is and working with mentors to establish what it is that they lead on. The development of repertoire, styles and discourses may be revealed through a new way of checking in with each other to keep updated on the mentors' and interns' progress or developing a common language use in Chapters 4 and 5.

2.3.5.3 Mentoring as identity formation in a community of practice

Wenger (1998) focused on identity as a way to address learning of the individual from a social perspective as well as to explore social structures and identification beyond the CoP. Importantly, his identity focus also explored the other side of the coin in terms of non-participation and exclusion. "Our identity includes our ability and inability to shape the meanings that define our communities and our forms of belonging" (Wenger, 1998, p. 145). Identity is the entry point to explore the social and individual. By using Wenger's (1998) articulation of the characteristics of practice (such as negotiation of meaning, community, shared history of learning, boundary and landscape, constellations), I would be able to relate them to the characteristics of identity (negotiated experience of self as participation and reification, membership, learning trajectory, multimembership, belonging defined globally and experienced locally). This is important for explaining identity in terms of the value creation possibilities of mentoring for both the interns and mentors, organisations and beyond the organisations. The research participants' participation in mentoring as well as evidence of reification and interaction with the social world builds an identity. Dimensions of identity include the mutuality of engagement, perspectives that reflect accountability to an enterprise and long-term engagement in practice in order to negotiate the repertoire. Drawing on this, I looked for ongoing succession of participation over time so that I could see identity as a trajectory into and across CoPs in Chapters 4 and 5. Identity involves membership in different ways and reconciliation across boundaries of practice. Identity is found in local activities but also as an interplay with more global issues (Wenger, 1998).

Drawing on this, I could therefore potentially explain non-participation as part of the development of identity through mentoring where the research participants experience being an outsider, a peripheral participant, being marginalised (Wenger, 1998) in Chapters 4 and 5. Wenger (1998 p. 169) explained non-participation as mediated by certain institutional arrangements.

Wenger (1998 p. 173) explained modes of belonging such as engagement, imagination and alignment and described their characteristics. With this, I could potentially describe the research participants' activities in negotiating meaning together; their images and perspectives from their experiences and their coordination to align with the enterprises of the organisation in Chapters 4 and 5.

Wenger (1998, p. 191) considered how identification with certain communities takes place and how meanings are formed in relation to the context of the communities. The ability to control the meanings that have been formed is equally important as negotiability. Mentoring as a form of a learning community could also be useful with characteristics that ignite ongoing interplay between competence and experience. How mentoring as a learning community enables identity formation would be an important consideration in this study, explored in Chapters 4 and 5. Thus Wenger's (1998) theorising offered multiple dimensions of learning to analyse and explain mentoring in the research context in this study.

2.3.5.4 Mentoring as being harmful

Considering how mentoring in communities of practice allows for "an experience of meaningfulness" but also inhibits new experiences for research participants and "holds them hostage" (Wenger, 1998, p. 85) was important in this study. Wenger (1998) emphasised that shared practice is not always collaborative or emancipatory. Thus, mentoring through the lens of entrance into a community of practice can indict something harmful, with its own set of "inbred failures" and "reproduction of oppressive conditions" (Wenger, 1998, p. 85).

> As a locus of engagement in action, interpersonal relations, shared knowledge, and negotiation of enterprises, such communities hold the key to real transformation – the kind that has real effects on people's lives. From this perspective, the influence of other forces (e.g. the control of an institution or the authority of an individual) are no less important, but they must be understood as mediated by the communities in which their meanings are to be negotiated in practice.

(Wenger, 1998, p. 85)

This was an important consideration in this study as, although I wanted to explore the value creation possibilities of mentoring, value does not necessarily mean that mentoring is emancipatory or collaborative. A mentor could be excluding an intern or the organization could have limitations that leave a mentor feeling demotivated and uninterested.

In conclusion, the potential for explaining the value creation possibilities of mentoring within environmental organisations was identified in LPP and CoP and overcame some of the shortfalls identified in other learning theories as well as other theories of mentoring such as Kram (1985) and HCT. However, as is the nature of immanent critique I also interrogated the inadequacies of LPP and CoP in explaining the research. By examining existing critiques of these theories in the literature, I identified the following relevant shortfalls of LPP and CoP for explaining mentoring, and how to overcome them.

2.4 The shortfalls of LPP and CoP for explaining mentoring

2.4.1 Conceptualisation of novice-expert through LPP

Hughes, Jewson and Unwin (2007) noted that Lave and Wenger's (1991) ideas require further development. One aspect of LPP that has been identified by Fuller (2007) as problematic was being able to explain situations where more experienced individuals are learning from novices as well as experienced individuals learning in new roles. In Lave and Wenger (1991), LPP considers learning between a novice and expert in apprenticeship. Fuller and Unwin (2003) critiqued Lave and Wenger's (1991) LPP in the conceptualisation of novice and expert. Fuller (2007) noted that there is no indication or further explanation that the 'expert' is to be suitably qualified or experienced. Fuller and Unwin (2005) worked at developing Lave and Wenger's situated learning model of LPP applied to apprenticeships in more modern workplaces. Importantly, they revealed that even younger apprentices can mentor. They felt that LPP is an inadequate model of apprenticeship for modern complex workplaces and that the explanation of old-timers mentoring novices in a CoP is limited. Fuller and Unwin (2005) found that learning takes place in a range of settings, even outside the workplace and that each individual can experience their learning differently. Experiences in different settings outside of the community effect engagement in the community setting.

As identified in section 2.3.2, one-on-one hierarchical theories of mentoring have already been identified as inadequate. Therefore, when considering the value creation possibilities of mentoring I would need to turn to Wenger's (1998) later theorising of CoP which offered explanation beyond only novice-expert as well as his theoretical work that has followed which further expands understanding of learning within a network and community/ies (this theorising is explored in more detail in section 2.4.4).

2.4.2 Explaining mentoring through formal training

Fuller and Unwin (2003) acknowledged that Lave and Wenger (1991) do not account for formal training as part of learning through LPP. This may be an important consideration in relation to the context of the research, as Groen Sebenza included an element of formal training for both mentors and interns. There may be times when the more experienced teach or share skills through formal training which can play a significant role in learning (Fuller & Unwin, 2003). Lave and Wenger (1991) tended to dismiss this, according to Fuller and Unwin (2003).

Madiba's (2016) research on Groen Sebenza and the training and organisational support in strengthening interns' participation in workplace occupations was able to examine formal training as part of learning through LPP, using the model in Figure 18. The model considers the emergence of participation through CoP and LPP. Madiba (2016) used the model to explain interns' participation and development and she developed a model using LPP that guides the introduction and development of interns as newcomers (from disadvantaged black communities) into the biodiversity sector.

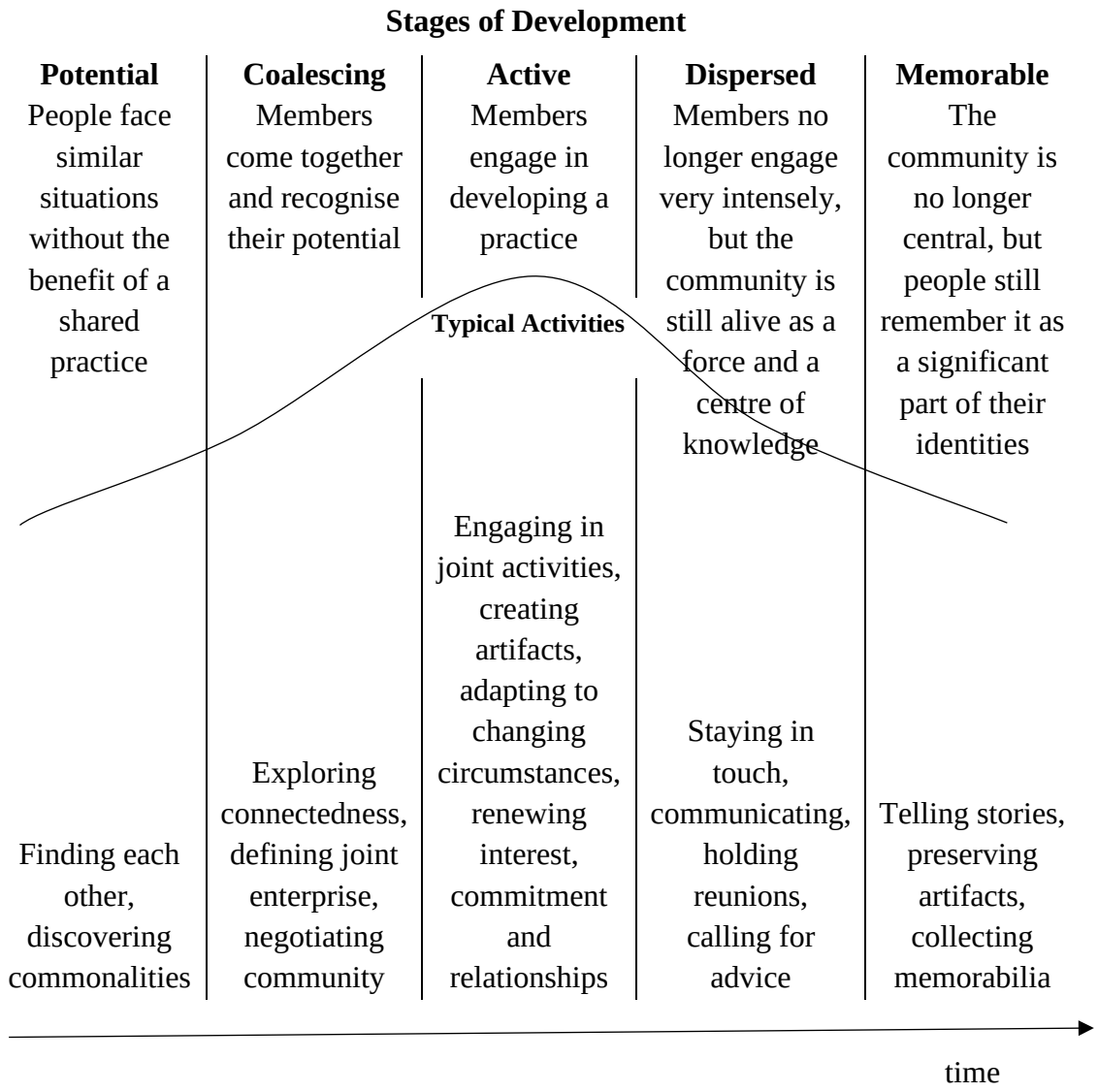


Figure 18: Model of stages of development of a community of practice (Wenger, 1998b)

Madiba (2016) was able to establish that the learning that occurs in the first year of Groen Sebenza is peripheral through this model. The strength of Madiba's use of LPP to analyse formal training and support is useful, even more so in that it is an approach that has been used within the same context as my research.

For the purposes of my research I do note, however, that her model, applied in a Masters study, originates from Wenger's (1998) learning as a social system, where we see his literature heading towards the "consultancy movement" mentioned earlier (Hughes, 2007, p. 36). According to Hughes (2007, p. 32), Lave and Wenger's (1991) original intention was not to offer a prescription of how learning should be but would provide a way to examine learning as it '*actually is*'. In Wenger (1998) is an example of how he provides a prescription of how

learning should be in a CoP, as moving through stages of development, different activities and different levels of interaction between members. While Lave and Wenger (1991) did not seek to provide a "prescriptive value" of learning (Hughes, 2007, p. 32), the more recent work by Wenger, Trayner and De Laat (2011) introduced a conceptual model of learning value that, similarly to Wenger (1998), categorises activities and interactions between members. However, this model focuses on a framework of social learning value categories that organises the raw narratives of the research participants to reveal the learning that is taking place through mentoring as it is. This framework does not come with detailed description of these stages of development and typical activities and may allow the data to speak for itself. Wenger, Trayner and de Laat's (2011) conceptual model of learning value would be a better analytical model to examine how a research participant is learning through a formal training activity. As Hughes (2007) explained, I had to be mindful that the explanation of learning emerges from the research and not project a view of learning onto the research data. I would hope to "critically extend and develop" LPP and CoP and "rescue its coherence and analytical purpose" (Hughes, 2007, p. 39).

2.4.3 Explaining how learning takes place within individuals through mentoring

Anne Edwards (2005) is of the opinion that LPP and CoP requires further development in providing evidence of how learning is taking place. Wenger's (1998) focus is on learning as not simply internal cognitive process, but as the negotiation of meaning and development of practice. Edwards (2005) has raised concerns that this learning as participation approach is considered non-cognitive. In the context of my research, understanding how interns learn new practices and ways of being in the world and what has enabled this, is important. Edwards (2005) felt that CoP does not allow us to explore new learning and new knowledge. She explained that what is learnt is not revealed, only what has been done. Edwards (2005) called for theory to understand how new practices and ways of being in the world are learned.

This requires analysis of not only participation but of "how learners interpret and act on their worlds and the opportunities afforded them for those interpretations and actions" (Edwards, 2005, p. 60). As Edwards (2005, p. 60) suggested, when examining learning I should be looking at potential action through the existing practices and how interns, for example, bring this action about.

> If we want to understand learning through participation in practices, we need to examine the practices and what they represent, allow and constrain together with the interactions that occur within them. If we do this, we will get a purchase on what individuals are bringing to these interactions and how they adapt as they engage in practices
>
> (Edwards, 2005, p. 58)

This is important as, if I needed to understand how people change, I needed to understand how mentoring enables learning for a common good purpose. Edwards (2005) cautioned against only using CoP as a learning theory as more than only language and concepts of the research participants should be examined in order to understand learning; evidence of bringing about action and expanding this knowledge needs to be considered. Examining expertise as "a capacity to interpret the complexity of aspects of the world and have the wherewithal to respond to that complexity", as a process of expansive learning, was identified as important by Edwards (2005, p. 57).

With this in mind, Wenger, Trayner and De Laat's (2011) conceptual model for promoting and assessing value creation in communities may provide opportunity to explore potential action, language, and expansion of knowledge, as identified as important by Edwards (2005). Value creation in this model is interpreted as *the learning value* that is happening through participation in the community. Value creation stories or narratives are used to find out what learning is taking place and what value the learning has to the storyteller. A research participant may introduce a mentoring activity that was meaningful as immediate value; she may describe what has come about as a result of the activity (e.g. a resource) as the potential value; she may reveal how what has come about is now being used in practice; the effects of this as applied value and the results of this in a subsequent chain of events as realised value. This model and its subsequent evolution, is explored in more depth in Chapter 3. It offers a way to identify and explain how learning is taking place through narratives.

Edwards (2005) stated that in order to understand learning through participation, the research must allow for explanation of the practices and interactions, and how the individual adapts. The possible actions that come about through practices should be examined. The conceptual model of Wenger, Trayner and De Laat (2011) offered a way to analyse practices, interactions and the individual's adaptations in mentoring within the individual narratives as value creation stories. Edwards (2005) argued for research that not only looks at participation and what is

enabling participation within the context, but research that considers cognition through how the individual interprets and acts in her world and what opportunities have enabled those interpretations and actions. Fuller (2007) also critiqued Lave and Wenger (1991) for only focusing on the community and not the individual mind. She noted that the individual comes to be through the social world, but this does not determine his/her own practice. By analysing individual narratives, we could better examine the individual's interpretations and actions made possible by mentoring.

Wenger's more recent work (with his name changed to Wenger-Trayner) explores learning in landscapes of practice (Wenger-Trayner et al., 2015) and offers further insight into individuals' interpretations and actions. In Wenger-Trayner and Wenger-Trayner (2015), the concept of knowledgeability becomes a focus. Omidvar and Kislov (2014, p. 271) noted that in Wenger's theorising, learning is found at the meeting place of the individual and social. His recent work places more emphasis on the individual and his/her learning as a trajectory through a landscape of practice. Here "the burden of identity shifts from a community of practice to an individual and puts to the fore the notion of knowledgeability, which broadly refers to the complex relationships people establish with respect to a landscape of practice" (Wenger-Trayner & Wenger-Trayner, 2015, p. 23).

Knowledgeability is established through many practices across the landscape. In professional occupations, a body of knowledge is social and complex and is not simply a single CoP but a landscape of practice made up of a complex system of CoPs and boundaries between them. This could describe the Groen Sebenza environmental host organisations and the associated professions within them.

The complex relations that people build across this landscape are introduced through the concept of knowledgeability. Knowledgeability involves a degree of general knowledge but not complete competence and so it has relevance when learning takes place as a journey through a landscape of practice (Wenger-Trayner & Wenger-Trayner, 2015, p. 23). Groen Sebenza's vision for "young South Africans from previously disadvantaged backgrounds to be brought together with experienced biodiversity professionals to learn, grow and eventually gain the competence and confidence to embark on rewarding and meaningful Biodiversity and Environmental careers" (SANBI, 2014a) could represent such a journey through a landscape of careers and their practices in the environmental sector. Explanation of the individuals'

knowledgeability would be seen as a value creation possibility of mentoring. If we revisit Figure 16 in section 2.3.4, we see that Groen Sebenza potentially offers opportunity for a journey through a landscape of practice and associated CoPs, within the host organisations and between the host organisations in the environmental sector.

2.4.4 Mentoring for learning across communities and contexts

The body of knowledge of a profession is social, complex and is made up of not only a single CoP. Fuller's (2007) critique of Wenger (1998) for mostly considering learning as participation within a community and not many communities or across these communities and contexts, is important. Fuller and Unwin (2003) found that apprentices learn across multiple contexts and this strengthened their learning. Wenger (1998) did not discuss the crossing of boundaries with the rest of the social world and discontinuities that arise between members and those who are not participating. However, Wenger-Trayner and Wenger-Trayner (2015) seem to respond to the critique and have explored this in more depth, offering further insights that could inform what the value-creating possibilities of mentoring through learning across communities and contexts.

Wenger-Trayner and Wenger-Trayner (2015) explored boundaries of practice where different competences of practice can be relevant or not to each other. They explained that when different perspectives come together there can be innovation and expansion of what was important to the CoP. These boundaries are thus assets of learning. Cash et al (2003) explored the importance of an organisation making a serious commitment to managing the crossing of boundaries and accountability to this by both actors on the side of the boundary (such as mentor/manager and intern). Collaboration in the development of a boundary object was also identified as important (Cash et al, 2003). When an intern joins a practice, they cross a boundary and transition. They are not only gaining knowledge but are part of a landscape and their trajectory reflects their emerging identity. They have aspirations, which can also guide their trajectory in the future. This past and future journey is included in their present experience of identity. The intern may not identify with a certain CoP or boundary at all. This may not be a decision made by the individual as the community may also reject the intern for various reasons (Wenger-Trayner & Wenger-Trayner, 2015). Crossing boundaries through mentoring offers a value creation possibility.

Whereas Wenger (1998) looked at competence as a dimension of knowing negotiated and defined in one CoP, if an intern is to become a responsible environmental practitioner, her experience should be a reflection of the current competence of the community. She is then accountable to that competence and regime. This community's social negotiation of what the competence is, is known as the regime of competence. It is recognised by the members and is able to transform as members experience it and as a community, they redefine it. So as newcomers to the community in the environmental organisations, according to Wenger-Trayner and Wenger-Trayner (2015), it would be the regime of competence that moulds the interns' experience until their experience resembles the community's competence. Their experience could also challenge the community's regime of competence, leading to renegotiation of the regime of competence. How mentoring transforms the regime of competence or how the regime of competence transforms members is an important consideration.

The concept of knowledgeability shifted LPP from the individual's identity across many regimes of competence. Drawing on this, in this study I could examine whether interns have developed a "meaningful identity of competence and knowledgeability in a dynamic and varied landscape of practice" through mentoring (Wenger-Trayner & Wenger-Trayner, 2015, p. 25) in Chapters 4 and 5. Lotz-Sisitka and Lupele (2014) described the importance of research in the environmental education field that explores identity formation, which Wenger (1998) and Wenger-Trayner and Wenger-Trayner (2015) allowed for in different ways. Wenger did feel that "the identity aspect of the theory has been underappreciated" (Omidvar & Kislov, 2014, p. 271).

Wenger-Trayner and Wenger-Trayner (2015) also explored identification (and disidentification) that positions learning in a landscape. They introduced modes of identification, which involve engagement in a practice where the intern can experience the regime of competence. If we consider these modes of identification, mentoring may be found to encourage the use of imagination for the intern to understand the landscape and their position in it. Opportunities for collaboration could support the intern's alignment with the context of rules and perspectives. According to Wenger-Trayner and Wenger-Trayner (2015), this identification would take place at different levels of scale in the landscape, within a community and beyond. Therefore, mentoring may be found to enable participation in a landscape through a combination of these modes of identification as a "nexus of identification or disidentification"

for the interns to form an identity and have a "coherent experience of knowledgeability" (Wenger-Trayner & Wenger-Trayner, 2015, p. 19), explored further in Chapters 4 and 5.
When considering the intern's journey through a landscape of practice, he/she may describe their knowledge of practices and yet not necessarily be fully competent (as one would be in a single CoP). In an interview, Wenger reflects on his 1998 work and stated that: "It's very important to have both competence and knowledgeability in balance. You don't want people to give up on competence… but then the price of mere competence is a kind of local narrowness that has cost for the learning capability of the system" (Omidvar & Kislov, 2014, p. 271).

Wenger-Trayner and Wenger-Trayner (2015) built on Wenger's (1998) marginal participation to explore modes of peripherality as learning as a trajectory through a CoP or within and the extent of engagement in practice. Fenton-O'Creevy et al. (2014) researched different forms of peripheral participation of students at the academic-workplace boundary (and classified them as marginal, tourists, apprentices or sojourners). Peer support and mentors were identified as important in this learning journey. Their study of students at the academic-workplace boundary highlighted the importance of experiences of:

- Competence in the most important CoPs;
- Participation in multidisciplinary work (this work offers engagement with other disciplines as a boundary); and
- Engaging, imagining and aligning with practices and struggling at their boundaries.

This body of work offers options for explanation of learning across different communities and contexts as a value creation possibility of mentoring.

I also needed to consider the factors within organisations and the environmental sector that enable or constrain these value creation possibilities of mentoring.

2.4.5 Social learning capabilities for mentoring

Wenger (2009) also explored social learning capability. In the interview with Omidvar and Kislov (2014), he described a need to explain learning citizenship where there is ethical consideration of the social learning capability of the entire system, such as in an organisation or beyond that. Wenger (2009) introduced social learning spaces, learning citizenship, social artists and learning governance as key components that enable social learning capability within

social systems. Essentially his exploration of social learning capability aimed to offer explanation of factors that enable social learning. For example, within the system of learning governance he described 'vertical' institutional accountability structures in an organisation. Opportunities for social learning and learning citizenship would occur where strong horizontal accountability is present.

As discussed in the critique of HCT theories of mentoring (see section 2.3.1), understanding the mechanisms that enable learning through mentoring is important. However, equally important is understanding the mechanisms that hold problems in place or constrain learning, in order to make recommendations to address the causes and factors underlying the problems. Carter and New (2004) explained that social and cultural structures are generative mechanisms and certain situations arise when the causal powers of these structures are activated. Wenger viewed social learning capabilities as learning being a "socially constituted characteristic that involves the person and the social structure in these complex ways" (Omidvar & Kislov, 2014, p. 271).

As explained above, there are aspects of LPP and CoP theorising that would be useful for explaining the value-creating possibilities of mentoring as a learning process. However, an examination of social learning capabilities as described by Wenger (2009) would not allow me to develop an in-depth understanding of the person and structural factors which constrain or enable the value creation possibilities of mentoring in environmental organisations. This is particularly important for this research to inform human capacity development initiatives focused on addressing transformation through mentoring in the environment sector. And even though Wenger (2009, p. 2) noted that "increasing the learning capability of these social systems is becoming an urgent concern in a world where we face daunting learning challenges", an analysis of the components of social learning capabilities (social learning spaces, learning citizenship, social artists and learning governance) is again prescriptive and identifying these components in the research would allow for surface level claims and would not reveal factors constraining the value-creating possibilities of mentoring. In order to understand more deeply the inadequacy of Wenger's theorising in addressing this research objective, I explored the ontological roots and intentions of his theorising and offer a suitable alternative to develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations. This was also to inform human capacity

development initiatives focused on addressing transformation through mentoring in the environment sector.

2.5 Ontological foundations and locations of CoP

Wenger (1998) claimed that his social theory of learning had relevance to the educational field as well as other disciplines such as organisational theory and sociology (Wenger, 1998). According to Wenger (1998, p. 12), his social theory of learning makes its main contribution to the social theory discipline, at the intersection of theories of social structure, identity, situated experiences and practice (see Figure 19 below).

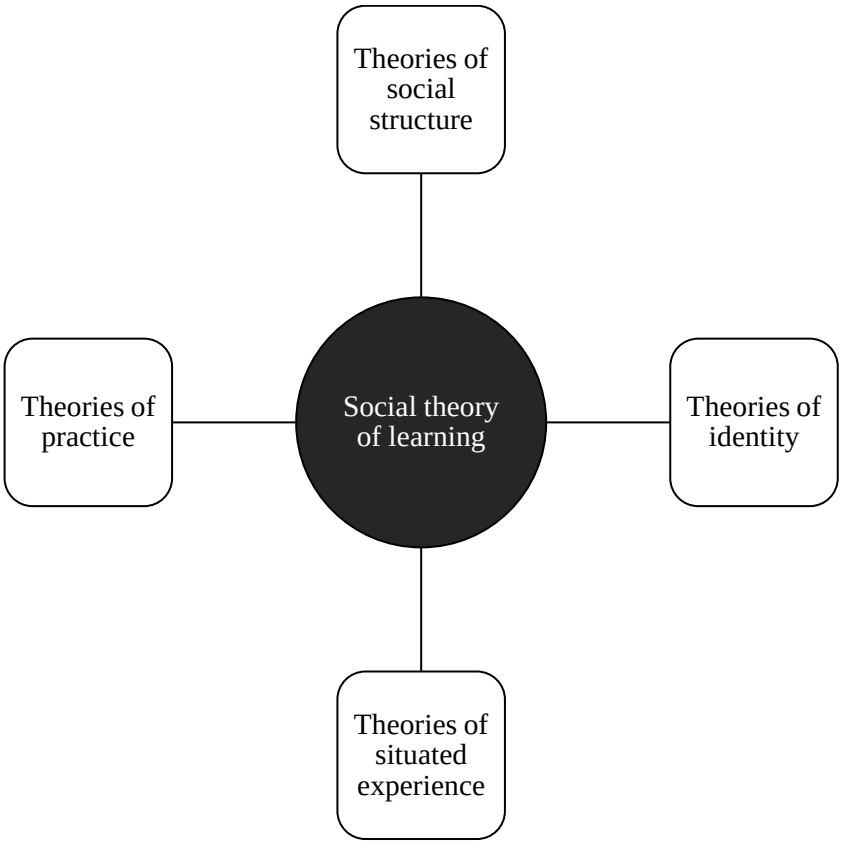


Figure 19: Social theory of learning at the intersection of social structure, identity, situated experiences and practice (Wenger, 1998)

Theories of social structure tend to focus on culture and structural factors, whereas theories of situated experience focus on agency, interaction and experience (Wenger, 1998). Wenger (1998) found his theorising located in the middle. “Learning…takes place through our engagement in culture and history. Through these local actions and interactions, learning reproduces and transforms the social structure in which it takes place” (Wenger, 1998, p. 13).

In Wenger's view, practice and identity were "forms of social and historical continuity and discontinuity" that were not constituted as distant or long-term as socio-historical structure or as immediate as an experience or interaction. Learning, as theorised by Wenger (1998), found its space between theories of social practice, where ways of engaging with the world are reproduced as everyday activities and theories of identity, as the "social formation of the person" Wenger (1998, p. 13). Learning was seen to enable change in practice as well as change in identity.

Wenger considers himself a learning theorist who is strongly influenced by social theorists, in particular Anthony Giddens (Omidvar & Kislov, 2014). Lave and Wenger (1991) were greatly influential in moving learning theory away from only considering the individual, cognitive aspects of learning and the immediate social environment. Lave and Wenger (1991) used Giddens' (1979) views of agency to consider the agent, the world and activity as part of practice. Lave and Wenger (1991, p. 50) thus claimed to be able to describe "the relational interdependency of agent and world, activity, meaning, cognition, learning and knowing". In an interview with Omidvar and Kislov (2014, p. 269), Wenger stated the following:

> I think that the most fundamental influence is this interest in the relationship between the person and social structure, not just the person as a learning entity. Community of practice became such an important concept for us, theoretically, because it was the embodiment of this view of learning as happening at the boundary between the person and social structure – not just in the social structure or not just in the individual, but in that relationship between the two.

Over time, Wenger has continued to work with the "assumptions similar to Giddens" (Wenger, 1998, p. 281) seeing individual and collective learning as intertwined (Wenger et al., 2011). Interestingly, when interviewed about his theorising of agency, he resisted explaining the concept of agency except to say that learning is at the interface of individual and the social (Omidvar and Kislov, 2014). Agents can negotiate, resist or want to change competence in a community but "the community still does a lot of work for you" and "the burden of identity is moving from the community toward the person although this still happens in relationship with a social world" (Omidvar & Kislov, 2014, p. 271).

Billett's (2007) contribution to critical perspectives on CoP acknowledges Lave and Wenger's (1991) important shift towards the social in learning. "Learning, thinking and knowing are relations among people in activity in, with, and arising from the socially and culturally

constructed world" (Lave & Wenger, 1991, p. 51). While this is important for explaining social learning value creation possibilities of mentoring at the surface level, understanding agency, structure and culture factors that enable or constrain the value creation possibilities of mentoring in environmental organisations required a different approach. Billet (2007) argued for the missing subject – placing the personal within the community. Billet raised the point that we need to understand the personal and structural aspects and their effects on individual cognition as this leads to change. Thus we need to explore personal agency in shaping structure. Billet (2007, p. 59) proposed a duality with "agency of both the social and individual being enacted relationally in the immediate social engagement in workplace". He looked to explore how personal agency is shaped by structural factors overtime and results in change. Billet (2007) noted that Jean Lave never intended for a loss of the individual agency in shaping social practice. Lave and Wenger (1991, p. 53) in fact offer a focus on the individual and state that "the person defines as well as is defined by these relations". Billet saw their major contribution as shaping our focus on the interactions between the personal and the social through learning as participation.

Billet (2007) also described the importance of exploring learning beyond the immediate and considering a history of this interaction between the personal and the social. However, as I dug deeper into the ontological roots of communities of practice, I realised this specific gap required alternative theorising.

2.5.1 Giddens and structure and agency

Returning to ontological influences on CoP and LPP, Giddens explores agency. Justin Cruickshank (2007) explained that in order to understand agency we need to understand how it relates to structure. According to Giddens, structures provide the conditions that enable or constrain agency (Cruickshank, 2007, p. 70). They are the "medium and outcome of agency" as the structures have to exist and can be shaped. Thus, we see a duality of structure. Structure and agency can only be defined in relation to each other in Giddens' theorising. Situated practices reveal agency and the actions of people are mediated by structures, which they change or maintain through practice (Cruickshank, 2007). Sociology, according to Giddens, fails to explain how agents may actually change the rules or structure themselves (Cruickshank, 2007).

Margaret Archer critiqued Giddens for being conflationist; she argued that structure and agency cannot be separated and are "compacted together inseparably". Archer followed a social realist perspective and critiqued upwards, downwards and central conflation (Archer, 1995). In upwards and downwards conflation structure and agency are conflated, action happens only through structure in downwards conflation and structure emerges completely out of agency in upwards conflation. Central conflation associates with both structure and agency and structure is reproduced through agency which is simultaneously constrained and enabled by structure. She challenged Giddens with central conflation, wherein the parts (structure and culture) and the people (agency) are conflated and bound. Archer highlighted that it is necessary to analytically separate structure and agency in order to identify when agents are able to act to bring about change (Archer, 1995). Emergent properties are not used to conceptualise structure, culture and agency in central conflation theorising. Emergent properties are useful for explaining the factors that would enable or constrain the value creation possibilities of mentoring in environmental organisations.

2.5.2 No consideration of emergent properties

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 noted that indeed human agents 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 offering in response to this is analytical dualism. Analytical dualism enables us to understand the interplay between structure (the 'parts') and agency (the 'people'); both have properties and exercise power (Archer, 1995). Giddens rejected emergent properties and instead saw structures as having virtual existence as structural properties once they are acted on through practice (Cruickshank, 2007). In Giddens' view, "society is based on repeated practices, and these practices are based on rules and resources which only have an existence as such, when used in interaction" (Cruickshank, 2007, p .76). The focus is on interrelated practices and the duality of structure concerns structures as both the medium and outcome of interaction (Cruickshank, 2007). Archer said that structures are "activity dependent in the present tense" without emergent properties (Cruickshank, 2007, p. 76). This takes us back to Billet's (2007) concern that we need to understand learning beyond the immediate and consider a history of the interaction between the personal and the social.

2.5.3 Giddens and sociology of the present tense

If I were to completely follow Wenger's theorising and explore Giddens as the underlying ontology for my research, I would not be able to explain how structures create a certain context for mentoring and how these enable and constrain workplace practice. If I can only explain the present tense, I cannot explain how the research participants are affected by the circumstances they find themselves in, as the circumstances are conflated with their present choices and practices.

Archer (1995) argued that rules, for example, exist beyond the present practice because they were created in the past and should be considered emergent properties. Giddens reduced rules into agency and conflated rules into practices. Structure is conflated into agency. I cannot explain how agency is influenced over time by the rules that exist before structures. I cannot explain how structure enables or constrain practice; I would only be able to refer to the individuals' practices. This individualistic approach focuses on the individuals and their activity, rather than understanding the context or how individuals have made history in circumstances that they have not chosen. Giddens offered us a sociology of the present tense (Archer, 1995). Although Wenger aimed to explore "the relationship between the person and social structure, not just the person as a learning entity" (Omidvar & Kislov, 2014, p. 269), his work did not enable me to explain how the social reality enables or constrains the value creation possibilities of mentoring.

2.6 An alternative ontology through critical realism

Cruickshank used a social realist meta-theory, developed through immanent critique, which was useful for developing an alternative to Giddens. Describing the entire immanent critique is beyond the scope of this chapter; however, I offer a brief summary in this section.

Cruickshank (2007, p. 100) referred to the work of Roy Bhaskar (1997) and "argues for a stratified ontology of emergent properties existing in open systems". He critiqued the empirical realism of naturalism as not being able to explain the deeper causal mechanisms of experiences when causal laws are non-existent. Cruickshank described how this explanation fails to account for social reality. Cruickshank critiqued individualism, collectivism and a dialectical position that fails to theorise emergence. With individualism, the context is limited to the individual and

so we cannot explain how history and context have influenced individuals. With collectivism we cannot explain possibilities, as we cannot explore agency with a focus only on factors beyond the individual. The conflationist, dialectical position that fails to theorise emergence, has the view that agents create structure and structure is an external and constraining factor. This replicates both the problem with individualism and collectivism. As an alternative, Bhaskar offered a Transformational Model of Social Action (TMSA), where structures are recreated by agents and provide a social context for agency (Figure 20). This TMSA model offered an ontology of emergent properties in open systems.

Before I examine the model, I take us a step back. A critical realist ontology uses the work of Roy Bhaskar and offers three levels of reality – the real, the actual and the empirical (see Table 3). The real is made up of objects – their structures and causal powers. The actual involves what happens when powers are activated and the empirical is what we experience (Carter & New, 2004). Critical realism is a stratified ontology and the world is seen to consist of emergent properties and powers (Sayer, 2000).

Table 3: Bhaskar's three domains – Populating entities (Bhaskar, 1978, p. 13)

	Domain of Real	*Domain of Actual*	*Domain of Empirical*
Mechanisms	*x*		
Events	*x*	*x*	
Experiences	*x*	*x*	*x*

If I was working off an ontology where I only acknowledge experiences, I would not be able to deeply understand the "conditions under which experience is possible to agency" (Archer, 1998, p. 196). A specific theory, like CoP will allow me to explain a horizontal level of experience; however, I need to be able to explain vertically the generative mechanisms that enable or constrain these experiences. "Ontological depth necessarily introduces vertical causality which simultaneously entails temporality" (Archer, 1998, p. 196). By working off a stratified ontology, I would be able to take into consideration history in my explanation of mentoring and the "prior materialization of the conditions of its possibility" (Archer, 1998, p. 197).

Returning to the TMSA model, Cruickshank (2007) described as the alternative offered by Bhaskar to individualism, collectivism and conflationism (see Figure 20), Archer (1998)

explained that Bhaskar (1989) called for the separation of agency and structure in his TMSA model. The model explains socialisation as an emergent interaction between society and individual agency and action that involves temporality, causality and emergence. This can lead to reproduction and/or transformation (Bhaskar, 1989).

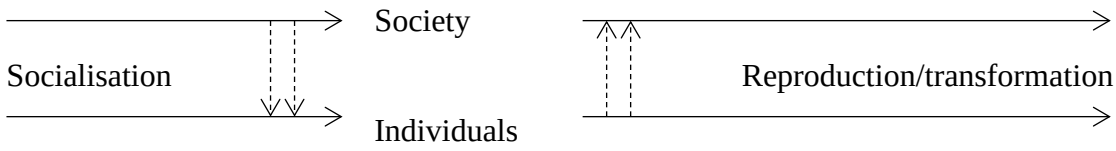


Figure 20: Bhaskar's original Transformational Model of Social Action (TMSA) model

A mentoring model developed by Oltmann (2009) used communities of practice to understand mentoring as a social learning process of Legitimate Peripheral Participation, with critical realism explaining the relationship between culture, structure and agency. Oltman used critical realism and Bhaskar's TMSA model to develop her own model of mentoring that describes the relationship between structure, culture and agency. This model of mentoring is further developed as she uncovered structures and mechanisms in her research. While this model worked for Oltman's explanation, I propose an alternative through further critique of the TMSA model by Archer.

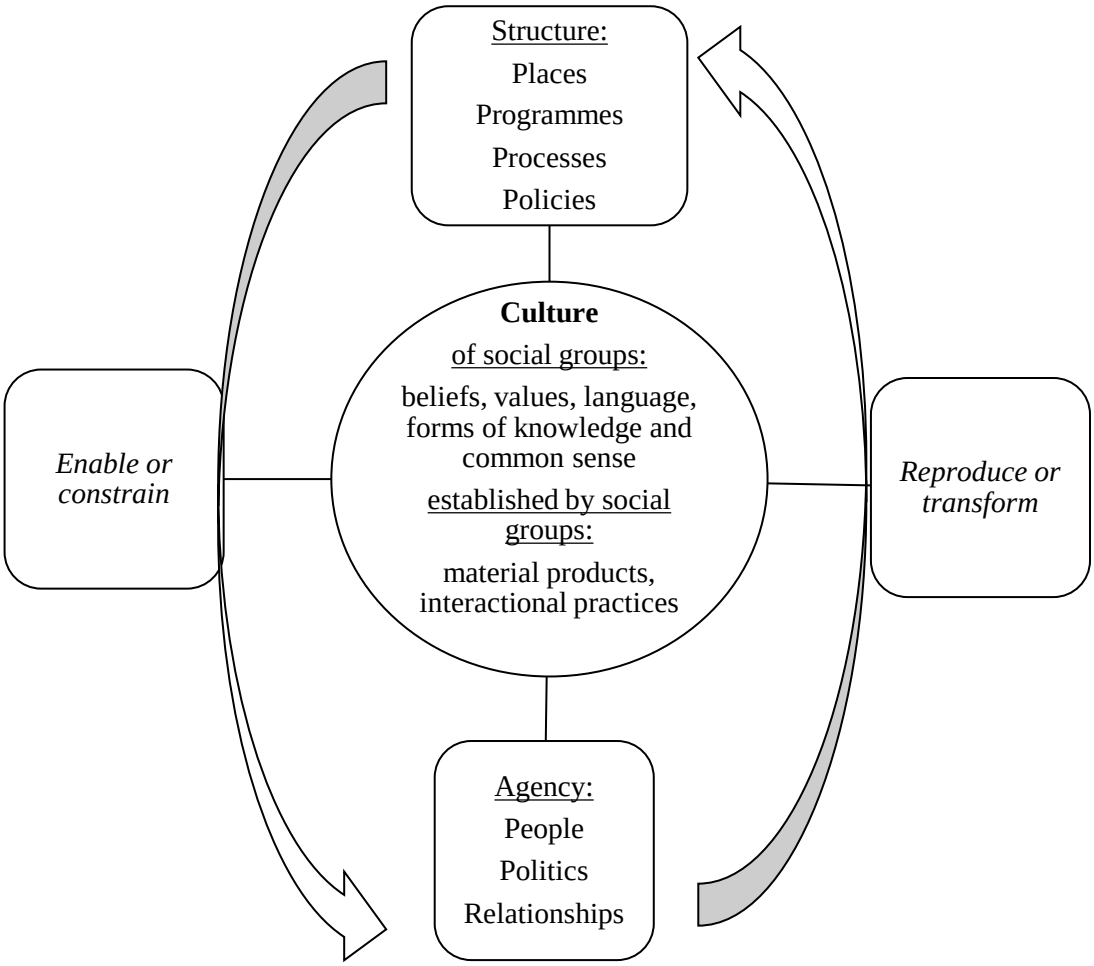


Figure 21: Oltmann's (2009) model of mentoring

2.7 A social realist meta-theory

According to Cruickshank, Archer critiqued Bhaskar's TMSA model claiming her model was superior to even Bhaskar's revised TMSA model and had a "more complex conception of social reality" (Cruickshank, 2007, p. 111). Archer viewed the TMSA model as being 'fundamentalist' in that it is a diagram that does not actually explain the connection between structure and agency. This connection also does not consider any interaction between before and after. There is no consideration of the past; it can be used to represent any moment in time. Archer stated: "social structures are activity dependent in the past tense" (Cruickshank, 2007, p.107). It illustrates socialisation as influencing any individuals without specifics. Bhaskar (1993) went on to refine this model addressing the issues raised by Archer.

Here it is helpful to note that Bhaskar's philosophical work is an under-labour for Archer's sociological elaborations, hence her attention to such dynamics of social process detail. Archer conceptualised emergent properties in more detail. In order to explain how agency is enabled or constrained by structures and has resulted in change or not, she argued that structure and culture must be separated. Social Realism differentiates between the parts (structural emergent properties and cultural emergent properties) and people (personal emergent properties) to examine the interplay between them (Archer, 1995, p. 184) through analytical dualism. As a domain specific meta-theory, Social Realism provides a lens to examine mentoring within organisations, specifically the structures within the organisations and in the broader environment as influences, which can enable or constrain the agency of mentors and interns with a temporal vantage point. Analytical dualism and the morphogenetic approach (see Figure 22) could enable me to explain what was happening in organisations around mentoring (Archer, 1995, p. 190), and how these processes affect the value possibilities of mentoring. Archer (1995, p. 5) describes morphogenetic as:

> The 'morpho' element is an acknowledgement that society has no pre-set form or preferred state: the 'genetic' part is a recognition that it takes its shape from, and is formed by, agents, originating from the intended and unintended consequences of their activities. In order to play its part in the chain 'ontology - methodology - practical social theory', such an explanatory framework has to be firmly anchored at both ends.

Archer (1995, p. 78) states that morphogenesis is associated with "processes which tend to elaborate or change a system's given form, structure or state". Morphostasis refers to "those processes in a complex system that tend to preserve the system's given form, structure or state-unchanged".

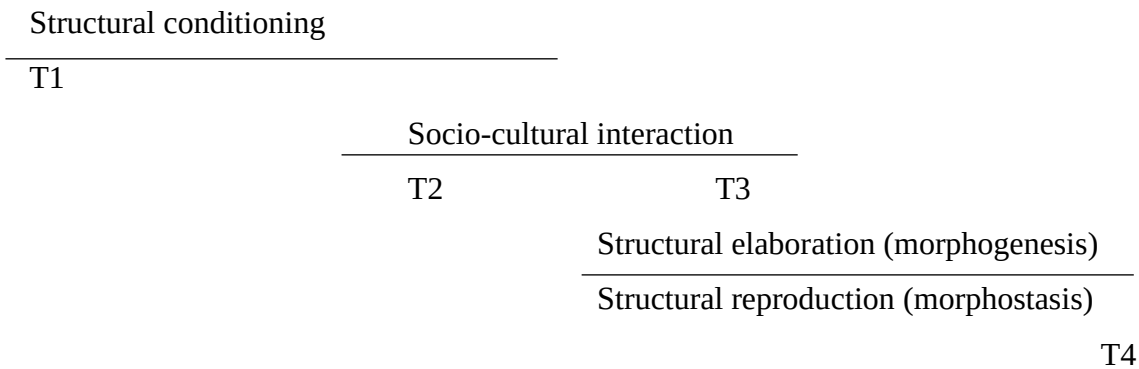


Figure 22: Archer's morphogenetic/static cycle and its three phases

Social realism makes use of structural, cultural and agential emergent properties. Each emergent property is irreducible to the others, but stands alone and endures, unlike Giddens'

Structuration Theory where these emergent properties are merged (Archer, 1995). Social interaction is shaped by Structural Emergent Properties (SEPs).. Cultural Emergent Properties (CEPs) arise from structural influences on an agent's actions within a social spaceand shape social interaction. Personal Emergent Properties (PEPs) are the powers and interests of the agent, , which also shapes social interaction. Examples of SEPs, CEPs and PEPs are provided in Table 4.

Table 4: Descriptions of the emergent properties of Archer (1995) and relevant examples

Emergent properties (Archer, 1995)	Description
Structural Emergent Properties (SEPs)	Rules, regulations and guidelines dependent on material resources, for example, weekly meetings with interns and mentoring guidelines
Cultural Emergent Properties (CEPs)	Structural influences on an agent's actions within a social space, and shape social interaction, for example, the hierarchy in an organisation
Personal Emergent Properties (PEPs)	The powers and interests of the agent which also shapes social interaction, for example, the commitment of a mentor to the learning of others

Structure is explained as activity dependent in the past tense through emergent properties. And because structure has come about through interaction in the past, it creates a context for interaction and thus can either enable or constrain interaction. This interaction can thus allow for change (morphogenesis) or continuity (morphostasis) (Figure 22). By separating structure and agency through analytical dualism of Archer (1995), I now had access to a methodology to explain change or continuity that could result through mentoring through a morphogenetic cycle (which includes structural conditioning, socio-cultural interaction and structural elaboration or reproduction) (Cruickshank, 2007, p. 112).

"Time is used to make the analytical dualism between structure and agency and time is used to link structure and agency" (Cruickshank, 2007, p. 113). At T1 (see Figure 22) I would explain

the context (that came about through the past activities of agents) that enables or constrains the activities of agents at present during socio-cultural interaction (T2-T3). A change or continuity in this context would be seen at T4. The morphogenetic framework can be used to analyse structure and agency and their ongoing interaction. It can also be used to understand how the socio-cultural agency changes a cultural system. In revisiting Billet (2007) who described the importance of exploring learning beyond the immediate when theorising with CoP and LPP, I would have a means of understanding change or transformation through learning over time (see Chapter 5).

CEPs make up a cultural system (CS) where engagement with beliefs in this system is known as socio-cultural (S-C) interaction (Cruickshank, 2007). With analytical dualism I would examine contradictions and complementarities in the cultural system that enable and constrain the value creation possibilities of mentoring. Whereas if I worked off the premises of Giddens and thus central conflation, I would assume culture is combined with other factors (Archer, 1996). Archer (1996, p. 76) described how central conflation keeps the cultural system and the socio-cultural interaction together as one as they are "mutually constituted". Giddens viewed culture as an ordering of society and this was inadequate as a theory for understanding cultural stability or change (Archer, 1996). "Giddens allows that there are 'critical situations' or 'critical phases' where the drastic disruption of routine corrodes the customary behavior of actors and heightens susceptibility to alternatives" (Archer, 1996, p. 95). This is inadequate as an explanation. Explanation is needed in terms of the cultural system and its socio-cultural factors. More detailed explanation of what leads to disruption was needed.

If I identify a certain belief system of a research participant as an emergent property, for example, female Groen Sebenza pioneers cannot do fieldwork, I am actually seeing different agents with different cultural system interpretations. Different agents are making use of different cultural systems in relation to their views (Archer, 1996). Through the morphogenetic framework, I am able to explain that certain cultural systems arise from an agent's activities at present and how this agency can change belief systems or not over time (Archer, 1996). With Giddens, I would only be able to unearth a vague description of the processes at play and not a deeper understanding of the exact generative mechanisms that have led to cultural change or stability (Archer, 1996).

Archer viewed reflexivity as one of the most important PEPs and it plays a mediating role between structure and agency. Archer, not unlike Giddens, agreed that reflexivity occurs when actions of the individual in the social system affect the very situations they are acting on (Archer, 2003); however, she provides more analytical nuance as to the role of the agent and his/her internal conversations in the reflexive process. This presents a promising alternative to Wenger's focus of exploring "the relationship between the person and social structure, not just the person as a learning entity" (Omidvar & Kislov, 2014, p.269). Archer (2003) explored reflexive deliberation, where our reflexivity "defined our personal identities by reference to what is of ultimate concern to us in the world" (Archer, 2003, p. 33). Explanations of identity formation can be strengthened through Archer. In Chapter 3, I expand to illustrate the morphogenesis of the person through PEPs such as self-consciousness, personal identity and social identity. The agent is also viewed as a "crucial source of self-knowledge" (Archer, 2003 p. 33). The novice-expert conceptualising through Lave and Wenger's (1991) LPP has been critiqued as inadequate as a model of apprenticeship for modern complex workplaces (see section 2.4.1). The view that interns and mentors are all sources of self-knowledge strengthens the explanations of mentoring. This approach overcomes the critique made by Fuller (2007) who identified that Lave and Wenger's (1991) focus was on social practice and that the individual comes to be through the social world but does not determine their own practice. Billet (2007) too has argued for understanding of personal and structural aspects and their effects on individual cognition.

While the conceptual model of Wenger, Trayner and de Laat (2011) offered a way to analyse the value creation possibilities of mentoring within the individual narratives as value creation stories, Archer would allow me to explore how agentive factors within individuals enables or constrains how they act in the world.

Social Realism allowed me to examine PEPs and distinguish between a person, an agent (primary and corporate) and an actor. Archer referred to corporate agents as "organized groups pursuing a goal" and primary agents as groups who "do not express interests or organize to pursue a goal" (Cruickshank, 2007, p. 112). Networks of relationships between agents exist with network specific emergent properties of intra-agent CEPs and SEPs (internal networks) and inter-agent CEPs and SEPs (different actors and agents). Examining PEPs allows for a deeper understanding of the exact generative mechanisms that have led to agential change or

stability (Archer, 1996) in order to more adequately inform human capacity development initiatives focussed on addressing transformation through mentoring in the environment sector.

In the past, CoP has been reported as inadequate in terms of explaining transformation or change in organisations (Fuller, 2007). Fuller (2007, p. 22) noted that Lave and Wenger's (1991) conceptualising of LPP did not consider changes in practice or relationships, aligning more with "continuity and reproduction". "The ability of communities of practice to transform is inadequately dealt with by Lave and Wenger" (Fuller, 2007, p. 24). Fuller (2007) noted that organisations are ever-changing and that communities of practice remains stuck in "predictable temporal cycles of reproduction based on the newcomer to old-timer trajectory", which is not useful in present day organisations. Recently, Beverly Wenger-Trayner (2014) revised the conceptual model of social learning in communities and networks of Wenger, Trayner and De Laat (2011) to include the element of transformative value where one may analyse for evidence of change in the understanding and definition of what matters to an individual or the community through social learning. While this is a useful consideration, Archer's morphogenetic framework can offer further insight into change and the generative mechanisms behind change.

2.8 The domain specific meta-theory

Like Cruickshank (2007), I identified Archer's Social Realism as useful to explain the research. This was the result of the process of immanent critique undertaken for an alternative account of social being and the structure-agency dilemma offered by Giddens (Cruickshank, 2007, p. 143). A summary of the immanent critique is provided in Figure 23 to illustrate the development of theory.

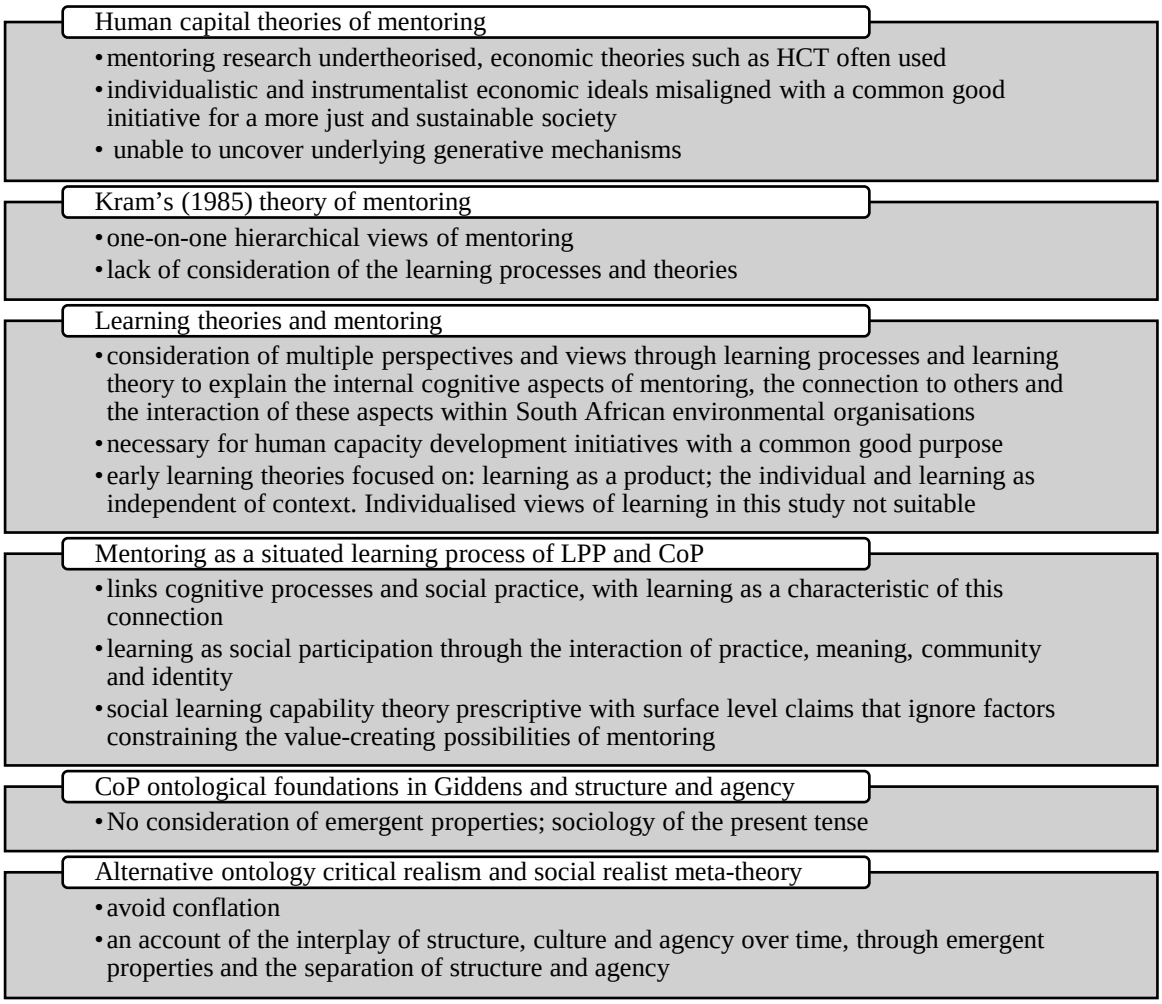
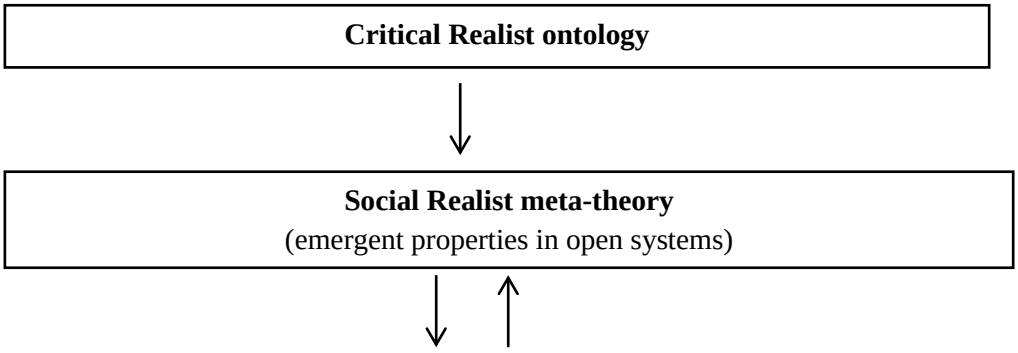


Figure 23: The development of domain specific meta-theory in Chapter 2 through immanent critique

A critical realist ontology underpins the research with a social realist meta-theory providing a lens on pre-existing paradigms (see Figure 24).



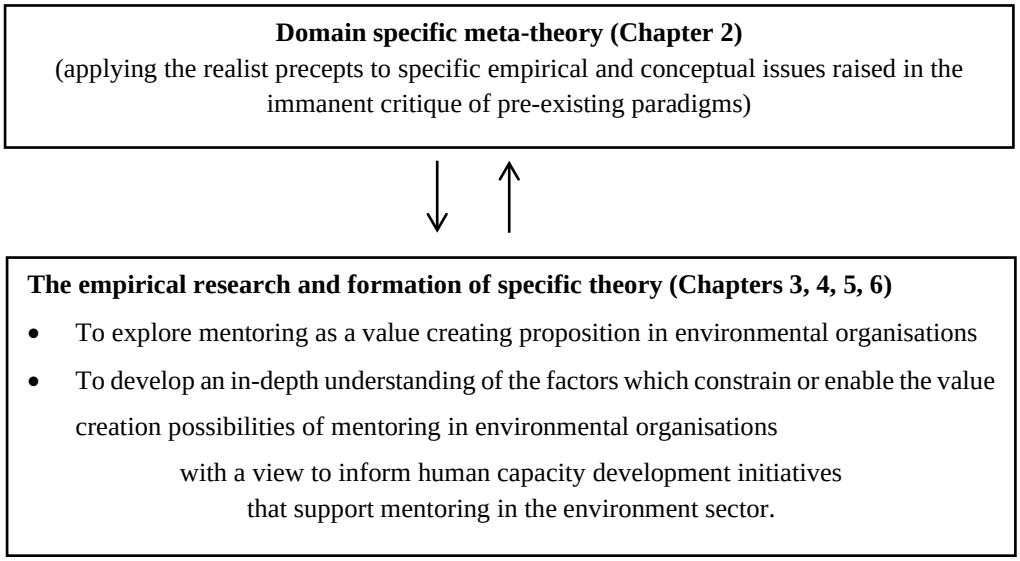


Figure 24: Overview of the research with a critical realist ontology, social realist meta-theory domain specific meta-theory and formation of specific theory

2.9 Conclusion

In avoiding the sociological logic of immediacy described by Cruickshank (2007), I could not apply social realist meta-theory to the research at only the empirical level using social realist concepts as a "definitive ontology". It is still too general for specific terms of reference, but it has identified the "conceptual resources for the development of specific theories, that are developed in relation with the on-going empirical research" (2007, p. 145). Chapter 2 has examined "the specific empirical and conceptual issues raised in the immanent critique of pre-existing paradigms" (Cruickshank, 2007, p. 145). Chapter 3 reveals the methodological and analytical application of the domain specific meta-theory. Chapter 4 and 5 further develop specific theory in relation to the empirical research. The research provides an opportunity to change the precepts of domain-specific meta-theory and Social Realist meta-theory for the context of the research. As Cruickshank (2007 p. 145) has noted, "A realist meta-theory is not an ahistorical, unrevisable and definitive claim about being".

CHAPTER 3:
APPLYING THE DOMAIN-SPECIFIC META-THEORY METHODOLOGICALLY AND ANALYTICALLY TO EXPLORE MENTORING IN SOUTH AFRICAN ENVIRONMENTAL ORGANISATIONS

3.1 Introduction

In Chapter 2 I applied realist precepts to the specific empirical and conceptual issues raised in the immanent critique of pre-existing paradigms of mentoring. The research objectives were to explore mentoring as a value creating proposition in environmental organisations, and to develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations. This was with a view to inform human capacity development initiatives. Chapter 3 explains how I applied the domain specific meta-theory methodologically and analytically.

3.2 Methodological framework

An underlabourer critical realist ontology provides a base that helps to ensure that the research can provide insight into the underlying deep factors and structures and their interactions with agents, rather than only an interpretivist, traditional, empirical approach that would touch the surface of what was really going on with mentoring in the organisations. Hence I sought to structure the research in such a way that ensured "a tripartite relationship between ontology, methodology and practical social theory" (Archer, 1995, p. 57). The critical realist ontology, the research objectives and the conceptual and theoretical frameworks explored through immanent critique in Chapter 2, shaped the approach taken to methodology and methods.

Table 5 uses the approach of Olvitt (2012) to represent the relationship between ontology, methodology and practical social theory in the research.

Table 5: Ontology, methodology and social theory of the research adapted from Olvitt (2012)

	Theoretical	Methodological	Methodological tools and procedures
Ontological/ Philosophical	Critical realism	Examining structure and agency over time within the domains of real, actual and empirical. Explanatory potential through identification of causal mechanisms	Analytical dualism; Morphogenesis; retroduction
Social	Social learning theory: legitimate peripheral participation and communities of practice	Identify and explain social learning as a value creating proposition	Social learning value creation framework

3.2.1 A methodology for analysing social learning value creation

Mentoring was assumed to be of value to Groen Sebenza. It was built into the Incubator model (see Section 1.5.2.3) and drew on much of the literature on similar initiatives, as explained in Chapter 1. In order to explore mentoring as a value creating proposition in environmental organisations, a methodology for social learning, value creation analysis was needed as argued for in Chapter 2

In Wenger et al.'s (2002) guide to cultivating communities of practice, they discussed measuring and managing value creation. A measure of value is important to provide insight into the learning processes and learning outcomes in communities of practice (Wenger et al., 2002). Wenger, Trayner and De Laat (2011) developed a conceptual model for promoting and assessing value creation in communities and networks using value creation narratives. Value creation in this context was interpreted as *the learning value* that is happening through participation in the community and networking. Social learning activities enabled through communities and networks included "sharing information, 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" (Wenger et al., 2011, p.7). Members within a community are committed to the domain of the community for the sake of learning and eventually this leads to shared practice, which becomes the learning value of a community. The learning value of a network is concerned with having access to interconnected information from different sources, conversations and perspectives. The interplay of these weaves together individual and collective learning (see the critical discussion in section 2.4.3).

Value creation stories or narratives[10] are used to find out what learning is taking place and what value the learning has to the storyteller. The use of narratives highlights different views and the importance of these. "Stories describe complex causal relations while incorporating implicit contextual factors" (Wenger, McDermott and Snyder, 2002, p.168). The model in Figure 25 includes "ground narratives" which are the historical events which influenced the community or network's formation, activities, roles, interactions and experiences. "Aspirational narratives" describe where the storyteller sees the network or community going forward in terms of successes and achievements over time. In other words, the value they expect the community or network to bring. Between the ground or everyday narratives and aspirational narratives lies the space for learning – this is where we find assessment and promotion of value creation through social learning. The model then includes five cycles of value creation in this space between the everyday and aspirational narratives, connecting them (Wenger et al., 2011).

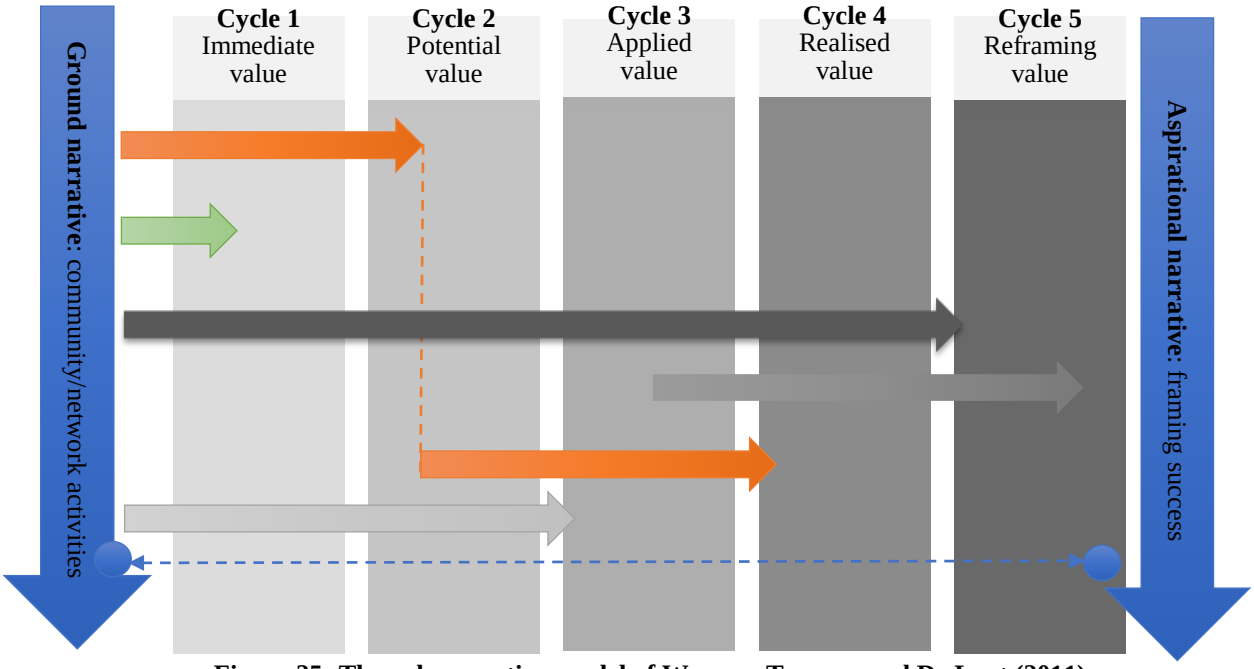


Figure 25: The value creation model of Wenger, Trayner and De Laat (2011)

The value creation stories are represented in Figure 25 above as horizontal arrows. The stories make their way through the cycles of value creation as described in Wenger et al. (2011). Cycle 1 (immediate value) is a community or network activity and how productive it is, for example

[10] Wenger-Trayner and Wenger-Trayner (2020, p. 152) explain narratives as "bits of stories people tell themselves and each other about their own experience, about the world, about who they are and could be – the fragments they use to make sense of why they are in a learning partnership".

a pioneer joins a wetland scientist mentor from his host organisation during a wetland site visit. Cycle 2 (potential value) is a resource that resulted from the activity, for example the pioneer is able to identify what wetland soils look like and has made some notes for future reference. Cycle 3 (applied value) reveals how the resource is used in the storyteller's (pioneer's) practice and the effects of this, for example when the pioneer has to make a presentation at the local school he is able to discuss wetlands and the soil colour. The effects on practice are linked to an outcome in cycle 4 (realised value), for example the pioneer receives a strong scoring performance assessment from his mentor for doing the school presentation. Cycle 5 (reframing value) then unearths the opportunity for reflection on the definition of success and reframing the value creation expectations, if the current definitions of success are inadequate in light of the new development in cycle 4. An example of Cycle 5 could be the pioneer wanting to rather be able to do a wetland assessment on his own in future and be assessed on that.

The first four cycles were developed from Donald Kirkpatrick's four-level model for training evaluation. These include reaction, learning, behaviour and results (Wenger et al., 2011). Bates (2004) critiqued this model for various reasons including being oversimplified. The Kirkpatrick model (Kirkpatrick, 1994) was used for evaluating training according to the following levels (see Figure 26 below):

- Level 1 (Reaction) analyses individuals' reactions to training when questioned;
- Level 2 (Learning) analyses individuals' understanding developed from the training;
- Level 3 (Behaviour) analyses how individuals have implemented or used what they have learned in their work; and
- Level 4 (Results) analyses whether the training had a position impact in the individuals' organisation.

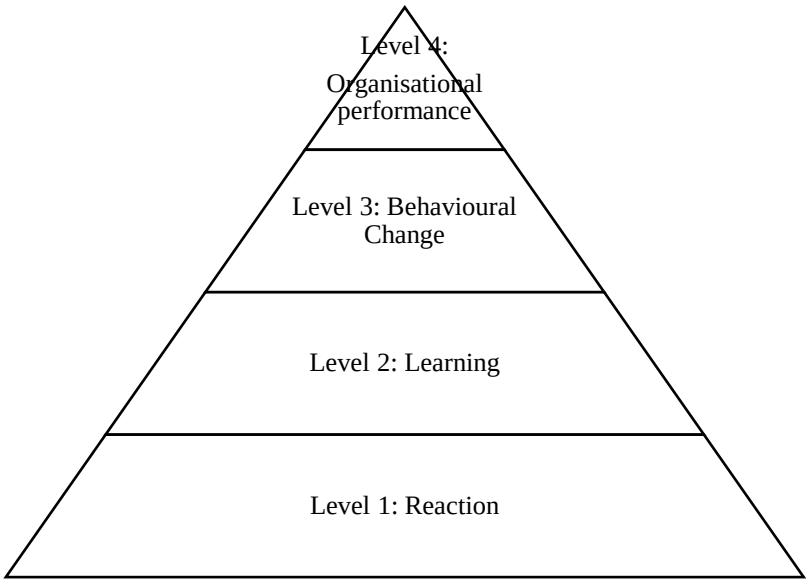


Figure 26: Levels of the Kirkpatrick model for evaluating training (Kirkpatrick, 1994)

The fifth cycle of reframing value was developed specifically for communities and networks by Wenger et al. (2011).

Beverly Wenger-Trayner (2014 and 2017) further developed the value creation framework for social learning in networks and communities of practice (Wenger et al., 2011) to assess "the value of a regional learning network of members of parliament in Southern and East Africa" for the World Bank. Wenger-Trayner (2017) described the 'learning loops' in Figure 27 below as when the network reported back their experiences in between the network's activities. Transformative value was introduced, and this step replaced 'reframing' value (Wenger, et al., 2011) with reference to "transformations that go beyond the practice of members" (Wenger-Trayner, 2017, p. 27).

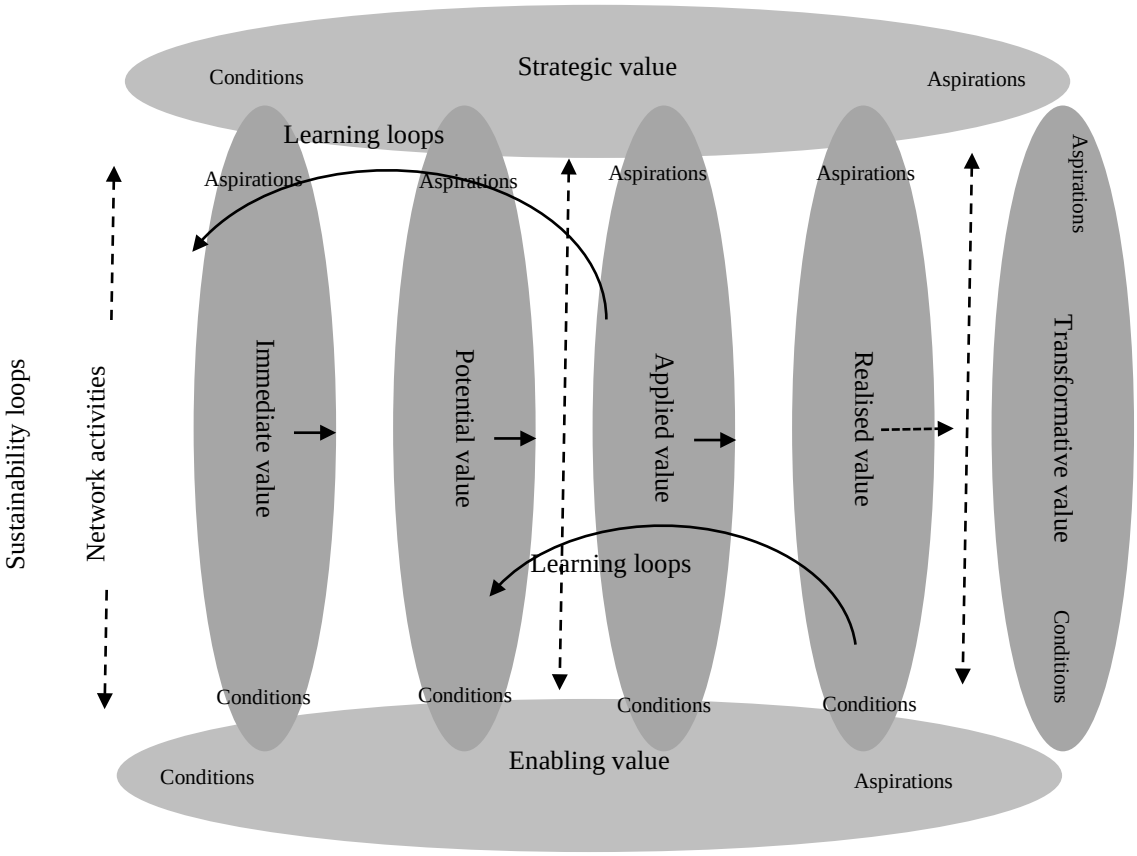


Figure 27: The value creation model (Wenger-Trayner, 2017)

The project that was assessed by Wenger-Trayner (2014 and 2017) provided key insights that further developed the framework:

> Value creation is not neutral. Different stakeholders have different claims to what counts as value. Articulating and negotiating these different perspectives on value and its production is critical to enabling the learning of a community and to building a robust case for the value of its activities.
>
> Wenger-Trayner (2017, p. 29)

Aspirations and conditions were included in the framework (Figure 27). Aspirations referred to stakeholders being able to share what they think should be happening and conditions referred to stakeholders being able to share what conditions would need to be in place in order to reach their aspirations (Wenger-Trayner, 2017).

Strategic value was included to allow for "strategic discussions" between stakeholders and the network about the value created through learning in the network. Enabling value was included for understanding and discussion about the conditions needed to enable the value creation and

was important to support the network or community of practice and sustain it over time (Wenger-Trayner, 2017, p. 30).

Wenger-Trayner and Wenger-Trayner (2014) presented the following revised model (Figure 28) that further expands certain elements of relevance to the analysis. Examples of indicators of the different levels of value created were provided as well as the learning trajectories that move between them through the different levels of value. Reframing loops illustrated how the network and stakeholders strategically engage and discuss the levels of value and their aspirations with the network allows for reframing of the aspirations of the network. Discussing the conditions that need to be in place to enable the different levels of value, can lead to improvement.

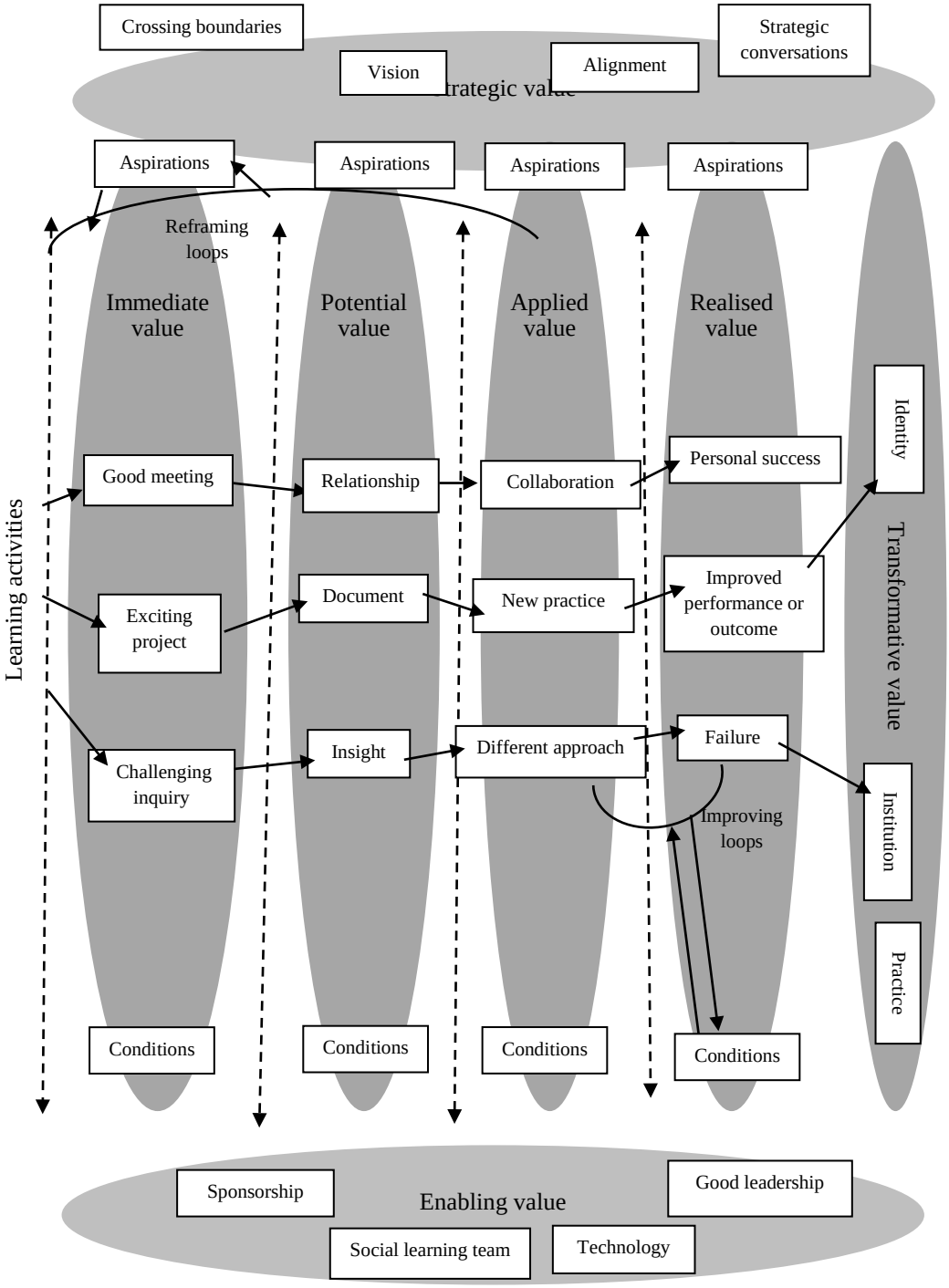


Figure 28: The value-creation model (Wenger-Trayner & Wenger-Trayner, 2014)

Wenger-Trayner and Wenger-Trayner (2019) undertook a case study of the University Innovation Fellows student programme using the value creation framework as a tool for social learning to understand organisational transformation. They referred to the value creation framework as a social learning framework with seven value creation cycles (Figure 29 below).

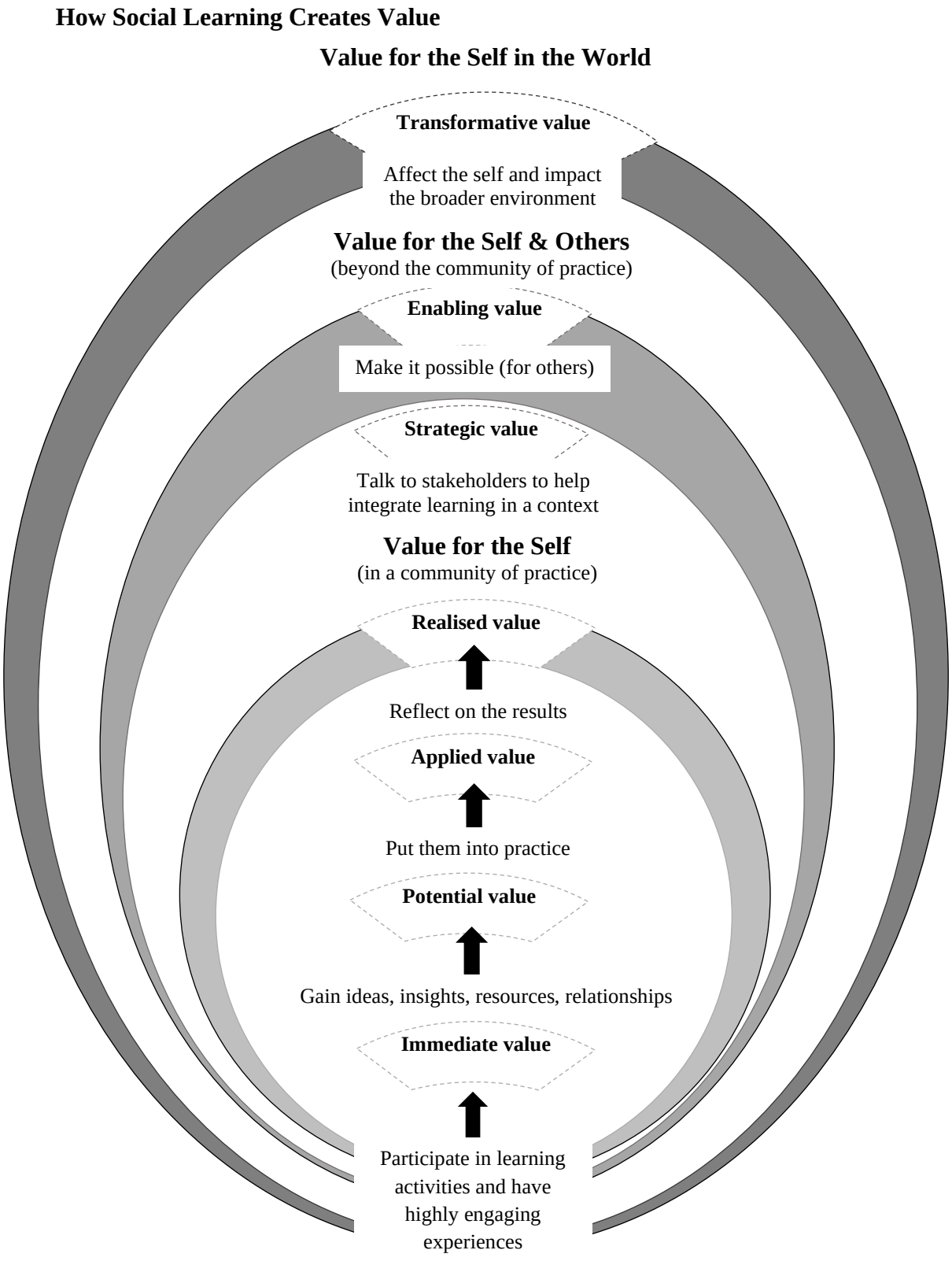


Figure 29: A social learning framework with seven value creation cycles (Wenger-Trayner & Wenger-Trayner, 2019)

Figure 29 above of Wenger-Trayner and Wenger-Trayner (2019) is a useful representation and

description of how social learning creates value. This figure of Wenger-Trayner and Wenger-Trayner (2014) was used in the research to represent and describe the value creation of mentoring in the organisations. The framework in Figure 28 allows for the conceptualising of indicators of value and the learning trajectories within and between the levels of value creation. Analysis of the data which included interviews as narratives for immediate, potential, applied and realised value was framed as Figure 28 (see Chapter 4). An analysis of transformative and enabling value was strengthened using the morphogenetic framework described in the next section of this chapter. An analysis of strategic value is explored in Chapter 6. Besides an exploration of strategic value through reflection on the findings of the research, the framework was not used to undertake a social learning process with research participants and so the reframing and improvement loops described in Figure 28 were not explored.

3.2.2 The morphogenetic framework to understand the interplay of structure, culture and agency over time

In section 2.5.3 I examined the Structuration Theory of Giddens as a sociology of the present tense through Archer who explains central conflation. Archer found that central conflation is "unable to provide theoretical purchase on structuring over time" (Archer, 1995, p. 89). "The conception of structuration introduces temporality as integral to social theory" (Giddens, 1979). Archer says that this is not adequate, as it only looks at the level of T2-T3 in Figure 30 below. This means that the theory cannot examine the interplay of structure and agency over longer periods of time and is restricted to looking at the present tense. This does not solve the issues of structure and agency if that is what one is looking at (Archer, 1995).

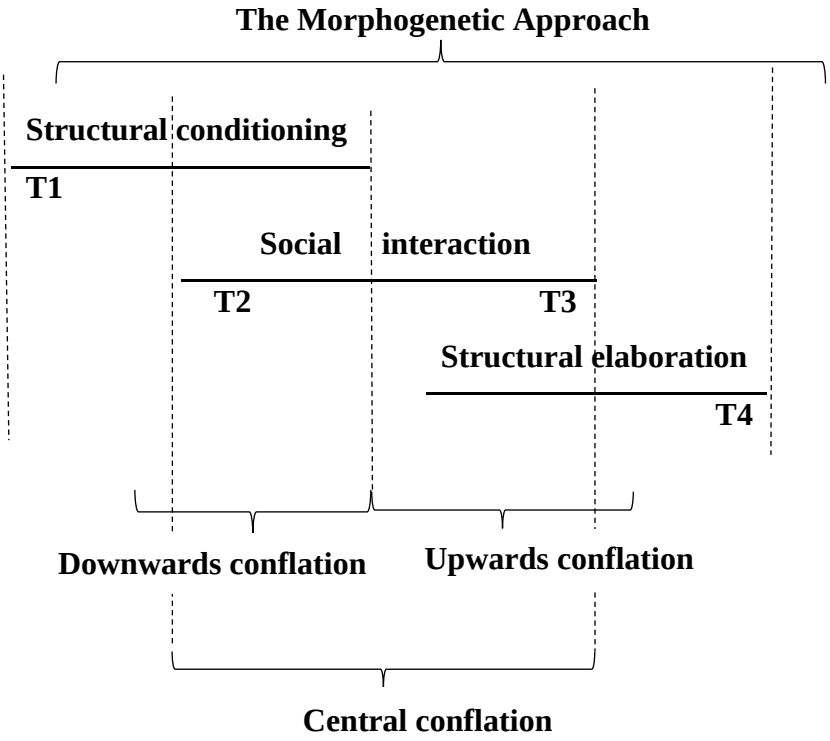


Figure 30: The limited time span of conflationary theories compared with the morphogenetic approach (Archer, 1995)

To analyse whether change, which Archer terms morphogenesis, took place or did not take place (morphostasis) and thus develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations, I needed a tool to analyse the interplay of structure, culture and agency over time (Archer, 1995). Analytical dualism allowed me to examine how the 'parts' and the 'people' interact and mould each other over time (Archer, 1995, p. 194). It enabled me to understand and explain mentoring in environmental organizations as "analytical dualism has firm ontological grounding and explanatory profitability" (Archer, 1995, p. 192). As mentioned, it was important that there was consistency between my ontological approach and methodology. The morphogenetic framework assisted in bringing together a realist ontology, research methodology, analysis and explanation.

> There are ties that bind ontology and methodology together and these need to be ones which are internally consistent and *also* provide a working basis for practical social theorizing.
>
> (Archer, 1995, p. 29)

The framework represented in Figure 31 allows for an analysis of structures (at T1), such as language, policy, roles, practices, resources etc., that influence mentoring activities (social interactions) of mentors and pioneers in organisations. During T3 to T4 the mentor interacts with structures, such as undertaking a career mapping exercise to understand the pioneers' interests. At T4 the analysis would unearth how the mentor communicated with the pioneers' (or not) and formed a meaningful mentoring relationship (or not).

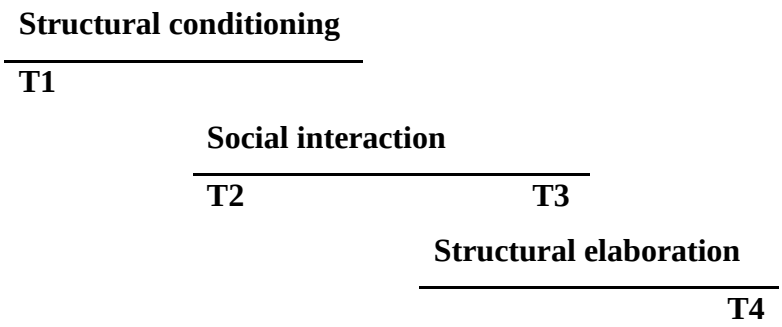


Figure 31: Morphogenesis of structure (Archer, 1995)

In Figure 32, the framework allowed me to analyse the morphogenesis of culture such as beliefs, values, ideas and knowledge. For example, at T1 a mentor begins working with a pioneer and brings with him various beliefs, values from his context and how he was brought up (such as the belief that women cannot do fieldwork). He has also been advised on how to best mentor a pioneer through a workshop. During T2-T3 he then experiences the mentoring relationship with a female pioneer in the reality of his workplace. At T4 we find that he now encourages female pioneers to do fieldwork.

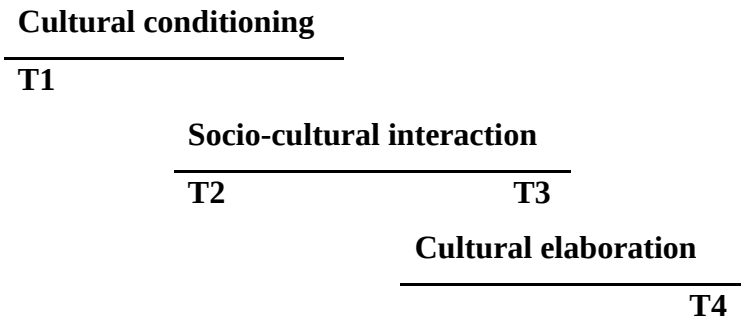


Figure 32: Morphogenesis of culture (Archer, 1995)

When applying the morphogenetic framework to agency, in Figure 33, Archer (1995) referred to primary agents which can change into corporate agents through reflexivity, while undertaking a project. Primary agents are "inarticulate in their demands and unorganised in pursuit" (Archer, 1995, p. 185) and have the "same life chances" (Archer, 2000, p. 263). The unemployed youth applying to become part of Groen Sebenza were primary agents. Corporate agents have "emergent powers of promotive organisation and articulation of interests" (Archer 1995, p.185). For example, the group of pioneers who have recently finished high school or are university graduates were unemployed and enter the workplace at T1 with no workplace experience. These pioneers enter a structured mentoring programme and not only work with a mentor but work together on group projects, using their personal emergent powers of reflexivity and/or collective action. At T4 we see this group become corporate agents, expanding their primary agency to become a fuller agent with workplace agency. Or perhaps they are not changed, and the result is morphogenesis.

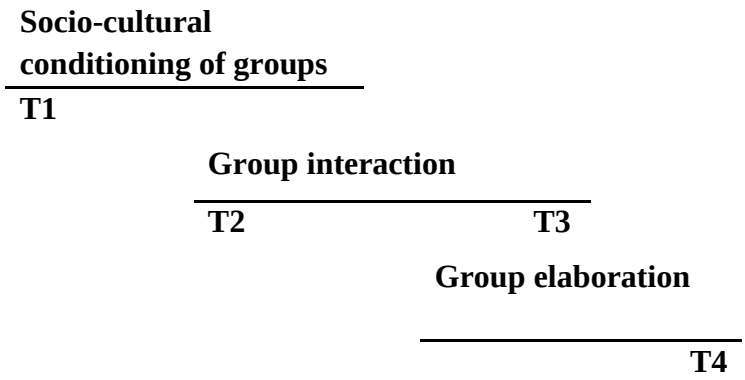


Figure 33: Morphogenesis of agency (Archer, 1995)

The morphogenetic framework therefore provided a methodological and analytical tool for this research to find out what was going on in the organisations, the mentors and the pioneers and to develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations (see Chapter 5). In order to apply the domain specific meta-theory methodologically and analytically, three phases of research were aligned to the morphogenetic framework of Margaret Archer. These phases are described in Table 6 below (see section 3.4).

3.2.3 Case study research

In order to develop an in-depth understanding of factors related to mentoring in environmental organisations over time, accounting for complex relations, history and context a case study approach was necessary. According to Bassey (1999, p. 58), case study in educational settings is “an enquiry into interesting aspects of an educational activity, or programme or institution…”. The research used the strategic selection of critical cases to identify which host organisations of Groen Sebenza would be case studies. Critical cases offer rich information and are of strategic importance in relation to the general problem (Flyvbjerg, 2001, p. 79) or issue of study. A context dependent understanding of mentoring in different organisations could potentially provide a depth of understanding and knowledge (see Chapters 4 and 5). A strategically selected case organisation would provide the most interesting insights into mentoring, rather than a random sample selection. In order to make a critical case selection, I needed to undertake initial research of the organisation combined with my own professional experience of working with or adjacent to such organisations.

Groen Sebenza had 32 host organisations hosting more than 800 pioneers (SANBI Partnership list June 2012 in Table 7 further on). Initially the research investigated 4 host organisations for possible selection.

One of these organisations was an environmental government organisation based in the province of Limpopo. This was an interesting case as approximately 100 pioneers (a huge number) were placed within this organisation with much publicised infrastructure and human resource challenges (see newspaper clippings observed on the wall of one of the organisation’s mentors visited in October 2014) (Figure 34 that follows).

Can't park a problem

Poaching shows collapse in conservation agencies, says Crispian Olver

News

Limpopo Parks in dire straits

Mismanagement and inadequate budgets have left the province's wildlife sanctuaries in ruins

Yolandi Groenewald

Figure 34: Newspaper clippings of possible case study organization challenges (photo: M Hiestermann)

The location of the organisation and its mentors was very far from my base in KwaZulu-Natal and travel to undertake data collection was expensive. While I went so far as to collect data during a first site visit in October 2014, after the initial scoping questionnaires (described further on in the chapter), many of the mentors were located in extremely remote areas, which also posed a safety challenge when travelling alone (I experienced such challenges when I became lost and the vehicle was stuck in a riverbed when travelling to one of the more remote parks). As a mother with a young baby, I could not take this risk and so the decision was made to abandon this case study.

Another organisation that was identified as a critical case study was a provincial government conservation authority in KwaZulu-Natal. This organisation has an interesting history of development of young professionals dating back to the early establishment of the Natal Parks Board and the Wilderness Leadership School. A thesis by Anthony Paton (2007) provided insight into the organisation's approach to conservation and professional training as game rangers and guides that was modelled on the military. The early (white, male) leaders of the organisation had military backgrounds. This case study organisation had fascinating cultural and structural historical aspects as discovered during data collection in 2014 and early 2015. However, due to similar resource constraints as the previously mentioned organisation, the research participants were extremely difficult to get hold of to secure interviews. It was decided that I had already collected and would continue to collect sufficient data from the following two case study organisations for the purposes of this thesis. Two critical case study organisations were thus selected:

1. A non-profit environmental organization (NPO) based in Hilton, KwaZulu-Natal, South Africa (see Figure 35). The location of the organisation was convenient, and the organisation had an established culture of learning and mentoring. The nature of the work of the NPO, that I was knowledgeable about through previous work experience, included professional development of people for the environment. I was also familiar with the staff member who would become the coordinator of Groen Sebenza for the organisation. She participated actively in early mentor engagements and the organisation seemed like an interesting case study as it was also hosting a large number of pioneers.

2. An environmental consulting company also based in Hilton KwaZulu-Natal, South Africa (see Figure 35). This organisation had a specialist focus on water, biodiversity and environmental engineering. The organisation played an active partnership role with many other local organisations which added an interesting insight into mentoring across organisations. A few years earlier, when mentoring young professionals, I had arranged for my research interns to network and gain work experience at this organisation for a short period. Through personal professional experience I was confident that I could gain a depth of understanding of mentoring in the organisation. I was also aware that many young professionals in the environmental sector find work in environmental consulting companies and insights into constraining and enabling factors of mentoring would be valuable.

Both organisations are located in the province of KwaZulu-Natal, which has high rates of unemployment. Many of the pioneers placed with the two organisations came from regions of KwaZulu-Natal with unemployment percentages of 54% and above (see Figure 35). This added further importance to locating the research with these case studies in order to achieve the objectives of the research.

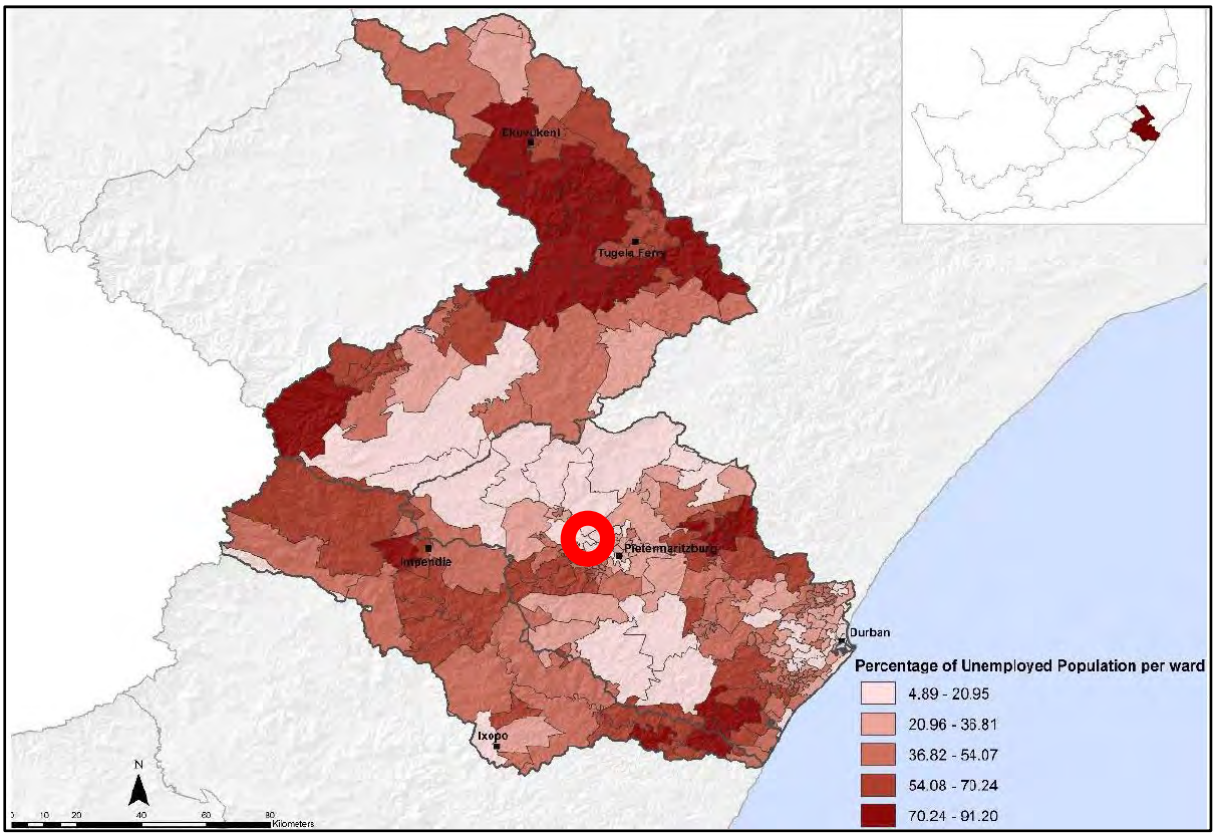


Figure 35: Percentage of the unemployed population per ward in the Greater uMngeni catchment area in KwaZulu-Natal- location of Hilton where the case study organisations were based (SANBI, 2016a)

A 'nested' approach to case study research (Lotz-Sisitka & Raven, 2004) was undertaken with cases embedded within the context of Groen Sebenza, which was an initiative responding to the Biodiversity Human Capital Development Strategy for the South African environmental sector context, as illustrated in Figure 36.

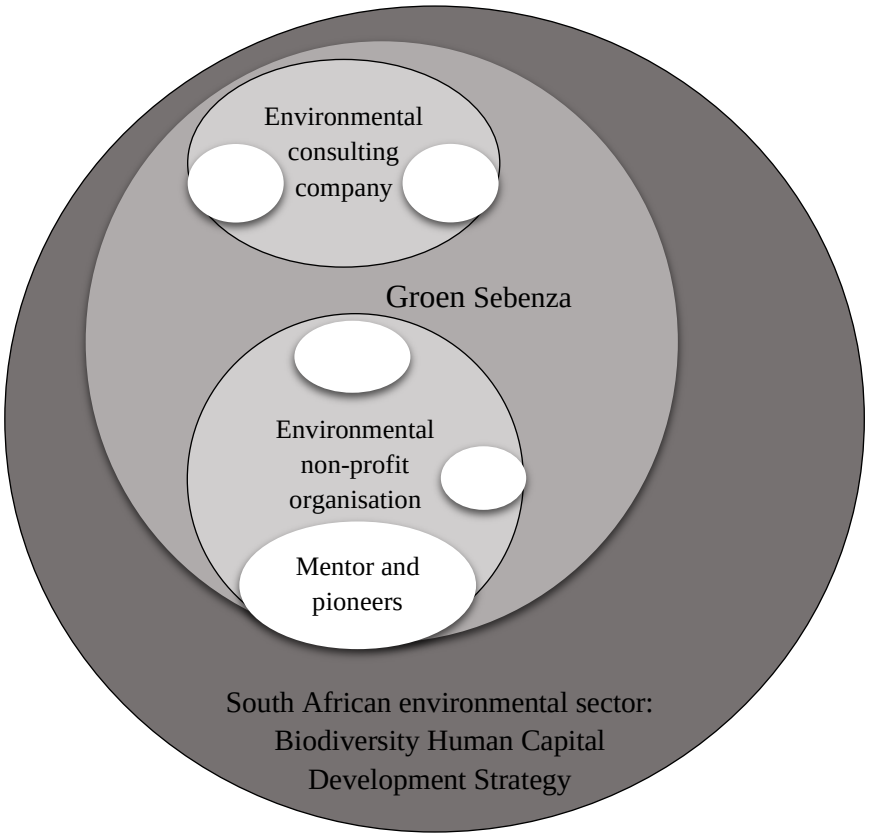


Figure 36: The research's nested case study approach

Within the case studies were at least two or three cases of a mentor with pioneers which he or she was mentoring. Lotz-Sisitka and Raven (2004) first described embedded case studies as a method for researching an environmental education course. The collective documenting of the case studies revealed dynamics and movements of the broader professional development practice within the environmental education context. This research and its case studies offered a depth of insight into the dynamics of mentoring within the context of the organisations and thus offered insights related to the Biodiversity Human Capital Development Strategy. Yin (1994, p. 13) defined case study as "investigating a contemporary phenomenon within its real-life context" (such as mentoring within the context of the mentors and pioneers in the organisations, as part of Groen Sebenza, an initiative responding to the Biodiversity Human Capital Development Strategy within the environmental sector). A nested approach allowed for adequate acknowledgment and consideration of "the context in which the case is playing out" (in the environmental sector) and "the context in which the participants are learning and working" (in the organisation) (Lotz-Sisitka & Raven, 2004, p. 71). Table 6 that follows explains in more detail how the case study research was undertaken. Chapter 4 provides further detail on the mentors and pioneers within each case study.

3.3 Reflexivity, Research ethical and validity considerations

The integrity of the people who were part of this research, which is a social practice, must be protected (Janse van Rensburg, 2001) and many procedures influencing the validity of the research have been considered in its design. Maxwell (2009) highlights the importance of ethical consideration during each step of the research. Guilleman and Gillman (2004) call for reflexivity as a researcher "*whereby researchers place themselves and their practices under scrutiny, acknowledging the ethical dilemmas that permeate the research process and impinge on the creation of knowledge*" (Guillemin & Gillam, 2004, p. 276).

Validity does not come about from methods, "no method guarantees the validity of an inference" (Maxwell, 2012, p.130). Realists see validity as coming from a certain method in a context and for a specific reason which would bring about an account (Maxwell, 2012). The research process attempted to move from simply procedures or methods as means of addressing validity to carefully acknowledging and examining the purpose of each method, the context of the use of the methods and then how any interpretations could be wrong (Maxwell, 2012). Table 5 below provides an outline of the methods.

The initial research data collection period spanned a three-year period with site visits less than a year apart, as well as contextual profiling. This allowed for a degree of prolonged engagement with data sources in order to build trust and understand the context well (Whittemore et al, 2001; Bassey, 1999). The final findings feedback workshops with the research participants allowed for further member checking, the incorporation of new perspectives and discussions in an attempt to ensure theoretical validity. This workshop was an opportunity to establish consensus on the facts that have been developed through the theories I used and ensured that the constructs were those of the participants (Maxwell, 2012; Cohen, Manion & Morrison, 2007). I wanted to pay careful attention to credibility, with data which had been interpreted as accurately as possible, and authenticity, revealing the research participants' "lived and perceived experiences and meanings", ensuring descriptive and interpretive validity (Whittemore et al., 2001, p. 530). Integrity and criticality are important criteria which needed to be shown through checking my interpretations and that they were based soundly in the data (Whittemore et al., 2001). In addition to the workshop, all transcriptions of interviews were emailed to participants for approval and input.

The writing of the findings in the last three chapters made use of substantial raw data and quotations as I wanted to ensure that the data was truly representative of the findings to ensure internal validity (Cohen et al., 2007). Transcriptions were done verbatim and as thick descriptions (Whittemore et al., 2001).

Triangulation, where two or more data collection methods are used (Cohen et al., 2007), was incorporated into the methods through observations, interviews, questionnaires and document analysis. Observations were not possible during every site visit due to availability of the research participants; however when they were conducted this method proved crucial to deepening understanding of the findings and context of the organisations and research participants.

All questionnaire and interview questions were tested and practised before delivery (Cohen et al., 2007). An example of a tested questionnaire can be seen in Appendix 1 and the colleagues who assisted with the samples are available for verification. Sampling adequacy was incorporated through the contextual profiling and questionnaires as a way to screen a large group for selection of individuals to be part of the study (Whittemore et al., 2001). By analysing the contextual profiling data and questionnaires, I selected mentors and their pioneers based on their responses in terms of interesting aspects of mentoring such as approach, perspective, challenges, the number of pioneers, location and their availability and willingness to participate in the research.

Critical friends were used continuously to challenge any findings as well as at each step of the research process over the years, especially during the PhD weeks at Rhodes University where formal presentations were made and through a GreenMatter Fellows Learning Group (Janse van Rensburg, 2001; Bassey, 1999). Fellow PhD scholars formed an online group where we would meet weekly to share challenges and updates on the research. The research was presented at the following conferences for further opportunity to receive input and critique: the World Social Science Forum in 2015, the 34th Environmental Education Association of Southern Africa conference in 2016 as well as various Rhodes University Postgraduate Research Symposiums.

Before the contextual profiling, questionnaires, observations and interviews, written consent forms detailing the intentions of the research and rights of the participant (including the right

not to participate or to withdraw) were signed (see Appendix 2). The data was member checked so that own interpretations were checked and verified by the participants. The relevant authority within the organisation (CEO/Senior Director) also acknowledged consent for staff to participate via email (Cohen et al., 2007). Anonymity of all participants and the names of the organisations was ensured throughout and each was given a pseudonym (Cohen et al., 2007). The environmental sector leaders were not kept anonymous with their permission.

Throughout the research and especially during the writing of the final chapters I continuously checked and ensured reflexivity (Cohen et al., 2007) and have reported honestly and in detail about how I undertook the research and any issues or areas where things did not go as originally envisioned.

3.4 Goals of the research and the methodological framework

3.4.1 Research questions and sub-questions

The research questions were as follows:

1. Is mentoring a value creating proposition for organisations in the environmental sector?
2. What structural, cultural and agentive factors enable or constrain the value creation possibilities of mentoring for organisations in the environmental sector?

The sub-questions were as follows:

1. What is the history and context of mentoring in environmental organisations?

2 a) What mentoring has taken place and what are the experiences of it, as immediate value?

2 b) What has mentoring produced, as potential value?

2 c) What difference has mentoring made to practice, as applied value?

2 d) What difference has mentoring made to the achievement of what matters, as realised value?

3. Has mentoring resulted in agential and structural elaboration, as transformative value?
4. What is the strategic value of mentoring for organisations in the environmental sector?

The sub-questions were developed to fit within the different levels of the morphogenetic framework of analysis (see Table 6). Sub-question 1 was developed for analysis at Level 1 (T^1) as structural, cultural and agential conditioning. Sub-questions 2 a, b, c, d were developed for analysis at Level 2 (T^2-T^3) as social interaction, and sub-question 3 was developed for analysis

at Level 3 (T^4) as structural, cultural and agential elaboration or reproduction as well as transformative value. Sub-questions 2 a, b, c, d, 3 and 4 were developed according to the cycles of value creation and suggested questions to "investigate as a way to reflect on the value that communities and networking produce" (Wenger et al., 2011, p. 22).

Table 6: Overview of methodological framework

SUB-QUESTIONS	METHODOLOGY	METHODS
1. What is the history and context of mentoring in environmental organisations?	Contextual profiling	• Document analysis (reports, policy, applications, articles) • 23 Questionnaires (pioneers, mentors) • Semi-structured individual interviews (mentors, coordinators) • Semi-structured individual interviews (environmental sector leaders relative to Groen Sebenza) • Field notes
2 a) What mentoring has taken place and what are the experiences of it, as immediate value? 2 b) What has mentoring produced, as potential value? 2 c) What difference has mentoring made to practice, as applied value? 2 d) What difference has mentoring made to the achievement of what matters, as realized value?	Case study research	• Value creation narratives using the value creation model (pioneers) • Document analysis (reports, event agendas, evaluations, presentations) • 2x site visit for each case: Semi-structured individual interviews (mentors, coordinators, pioneers) and workplace observations
3. Has mentoring resulted in agential and structural elaboration?	Case study research	• Document analysis (reports, evaluations) • 1x site visit: Semi-structured individual interviews (mentors, senior leadership)
4. What is the strategic value of mentoring for organisations in the environmental sector	Mirror data workshop based on Change Laboratory	Workshop: Strategic discussion of value creation findings (mentors, coordinator)

3.5 Data generation

3.5.1 Contextual profiling

I used contextual profiling in my Master's research (Van der Merwe, 2011) to become familiar with the context of the development and use of learning materials. Contextual profiling included methods of document analysis, questionnaires, workshops, interviews, observations and field notes for collecting data. Contextual profiling was used to establish familiarity with the case study organisations and participants. It informed an in-depth contextual and historical exploration of mentoring in these organisations as well as mentoring in the environmental sector in order to examine structural and agentive conditioning during analysis. Decisions regarding data collection changed as a better understanding of the context was developed (Maxwell, 2009) as the selection of case study organisations changed. Contextual profiling therefore assisted in purposeful sampling for the case study research. Purposive sampling includes the selection of cases which show characteristics that meet the specific needs of the research (Cohen et al., 2007). Purposeful sampling allowed for a selection of participants within the organisations according to those who could provide the best source of information required for the focus of the study (Maxwell, 2009). Contextual profiling included the methods of questionnaires, field notes, document analysis and semi-structured individual interviews.

3.5.2 Questionnaires

As part of the contextual profiling for the purpose of purposeful sampling, a questionnaire was developed for mentors and interns in each organisation (see Appendix 3). Irwin (2009, p.2) claimed that questionnaires are appropriate if "one wishes to obtain a first 'sweep' of data for the specific purpose of developing or informing a more detailed/in-depth research programme". This was especially relevant when researching the case study organisation in Limpopo which was ultimately abandoned but was hosting around 100 pioneers and many mentors. This 'sweep' of data proved useful even within the non-profit environmental organization with at least 30 pioneers and many mentors and assisted me in selecting three mentors and their pioneers to include in the research. The data was also used for further analysis in the contextual profile and findings of the research. The questions were open-ended and the participant mentor and pioneers had control over what they wished to say and how they wished to say it (Irwin, 2009) in the open-ended block provided for answers. Questions were asked about their work; their understanding of mentoring; people contributing to the learning and mentoring of the interns; previous experiences with mentoring initiatives; approaches to mentoring; support or

learning for mentoring and challenges in mentoring. As already mentioned, the questionnaire was administered to pioneers and mentors in the organisations, it was piloted with two interns and two mentors in another organisation, who provided comments on the questions and structure. Three questionnaires were completed by participants in the environmental consulting company and 20 were completed by research participants in the non-profit environmental organisation.

3.5.3 Document analysis

Documents were analysed for each phase of data collection (see Table 6). Media articles, policy, organisational policies, organograms, work reports, Groen Sebenza pioneers' assessments, reports, resources, professional development plans, presentations and minutes of meetings were analysed. During contextual profiling, documents were analysed to investigate the history and context of mentoring in the organisations as well as structural, cultural and agential conditioning. During case study research documents were analysed to investigate experiences of mentoring; products of mentoring; workplace practice; changes in mentoring and understanding of mentoring to address sub-questions 2a,b,c,d. Documents were analysed for Cultural Emergent Properties (CEPs), People Emergent Properties (PEPs) and Structural Emergent Properties (SEPs) to address sub question 3. A list of documents is provided further on.

3.5.4 Observations

During the first site visit, observations of mentors and pioneers in the organisational workplace took place. While numerous attempts to undertake observations were made during the second site visit, both organisations were extremely busy and having an external visitor based in their offices was a possible inconvenience. I gained sufficient insight from the first site visit observations and asked follow-up questions during the second site visit related to certain observations that I had made in both organisations. I used an 'observer as participant' approach where I was part of the social scene of the mentors' and pioneers' workday and documented and recorded what is happening (Cohen et al., 2007). I observed the mentors and their pioneers' work for a period of a day in various settings (office, meeting room, fieldwork and where there was no formal office for one pioneer, we met at a coffee shop) to try to see the dynamics of their work situations and generate thick descriptions of social processes and interactions (Cohen et al., 2007, p. 404). I used an observation schedule (Gillham, 2000) for some structure

with which to observe and record with the aim to address the sub-questions of the research. The content of the observation schedule was aligned to the research sub-questions and included experiences of mentoring; products of mentoring (e.g. maps, presentations); workplace practice and ethics (e.g. report writing, punctuality) and changes in mentoring. However, I discovered that the observation schedule was not particularly necessary as free writing of my observations of workplace practice and dynamics worked best as field notes (Gillham, 2000). Analysis of the data after the field trips was based on the sub-questions of the research. I took photographs occasionally and when mentors and pioneers were comfortable with me doing so, to be used in conjunction with the field notes.

3.5.5 Semi-structured interviews

Semi-structured interviews were used and involved questions formulated as an interview schedule beforehand (Cohen et al., 2007). According to Gillham (2000, p.65), semi-structured interviews are a "rich source of data", based on both flexibility and careful, practised structure. Semi-structured interviews took place at each phase of data collection and aimed to address the research sub-questions through the interview schedule. During the first site visit after the contextual profiling, my questions were strongly influenced by key questions offered by Wenger et al. (2011, p. 22 and 35):

- Describe your experiences of mentoring?
- What insights have you gained?
- What access to information or resources have you had?
- How has mentoring influenced your practice?
- What difference has mentoring made to your performance?
- How has mentoring contributed to your personal and professional development?
- How has mentoring contributed to what matters to the organisation?
- Has mentoring changed your, or others, understanding and definition of what matters?

My supervisor recommended a more relaxed approach to the interviews during the second site visit whereby the discussion was able to flow more freely. This approach, together with a more familiar relationship that was established with the research participants allowed for a great depth of description and discussion. The interviews varied in duration depending on the research participants with some interviews exceeding an hour and others shorter than 15

minutes. Interviews took place during contextual profiling (with two mentors, a coordinator and three environmental sector leaders related to Groen Sebenza) and then at each site visit (with five mentors, a coordinator, administrator, senior management and 10 pioneers). Two site visits took place during the Groen Sebenza implementation period until November 2015 and one site visit took place once the pioneers had finished. The interviews were recorded using a voice recorder and then transcribed. Some of the transcriptions were typed verbatim by myself and others were done by people I paid. An example of these transcriptions can be seen in Appendix 4. At times the individuals were not familiar with some of the words or could not hear the recording clearly and so either left blank spaces or made mistakes which I then corrected. There is a time gap between the interviews (late 2014 and mid 2015) according to the different site visits in order to show change over time. The mirror data workshops in 2020 also have a wide time gap to show change over time and these changes over time will be discussed in depth in Chapter 6.

3.5.6 Value creation narratives

The method of capturing value creation narratives (Wenger et al., 2011) was used as an alternative to semi-structured interviews with the pioneers during the first site visit. The value creation narratives used similar questions as the semi-structured interviews and responded to sub-questions a, b, c, d of the research. This format proved useful when combined with semi structured interviews with the pioneers as it was difficult to secure interviews with all pioneers during a site visit. The value creation narratives were completed electronically and emailed.

3.5.7 Mirror data workshops

I used mirror data workshops in my Master's research (Van der Merwe, 2011) with teachers from case study schools marine and coastal educators and decided to use this approach again in this research. As with my Master's (Van der Merwe, 2011, p. 48):

> The workshops touch on the approach of the Change Laboratory that has been developed through Cultural Historical Activity Theory (CHAT) to foster collaborative reflection on potential new ways of working (Engeström, 2008) in a very simplified way.

Yrjö Engeström developed the Change Laboratory [11]as a method to complement the expansive learning cycle. It is based on Vygotsky's concept of double stimulation where mirror data is presented at a first session as the first stimulus and is a problem that cannot be solved alone. A second session serves as the second stimulus where a tool is presented for strengthening understanding of the problem and to develop solutions (Engeström, 2008). In a report '*Introduction to Social Learning Tools and Processes'* (Hiestermann, 2015, p. 33) developed for the World Wide Fund For Nature – South Africa, I explained the concept of double stimulation as:

> Supporting participants to bridge what Vygotsky calls the zone of proximal development (ZPD), where the potential that each person has for learning is shaped by the social environment in which the learning occurs. Through acting on things in the world, learners engage with the meanings. Individuals bring some knowledge into a learning context and this knowledge can be increased by expanding learning…Vygotsky sees people being able to move from lower to higher mental functions through the use of mediated activities and psychological tools. Our thoughts and actions are mediated at an individual and social level, by both psychological tools or signs (such as language) and technical tools (such as computers or a map).

The true implementation of a Change Laboratory requires more depth and time beyond the scope of this research. Due to many personal reasons the mirror data workshops with the case study organisations took place in October 2020. The workshops took place after data analysis was completed as the preliminary findings were brought into the workshop as mirror data and used to stimulate discussion by the research participants as they analysed the preliminary findings and discussed possible strategic ideas and reflections. The COVID-19 pandemic and travel limitations in 2020 resulted in these workshops taking place virtually using the Microsoft Teams platform. The environmental consulting company included both mentors and a new coordinator of internships who had joined their team. The environmental non-profit organisation included the coordinator of Groen Sebenza and two of the mentors. The preliminary findings for each case study were summarised into Power Point presentations and a short summary document, that was distributed beforehand. An overview of the content and screen shot of the meeting with the environment consulting company is provided in Figure 37.

[11] The PhD research of David Lindley (Lindley and Lotz-Sisitka, 2019) used the interventionist approach of Change Laboratory workshops as a method for implementing the expansive learning cycle in depth. The approach consists of 5-10 workshop sessions each lasting about two hours involving practitioners, professional managers and the interventionist researchers who facilitate the process.

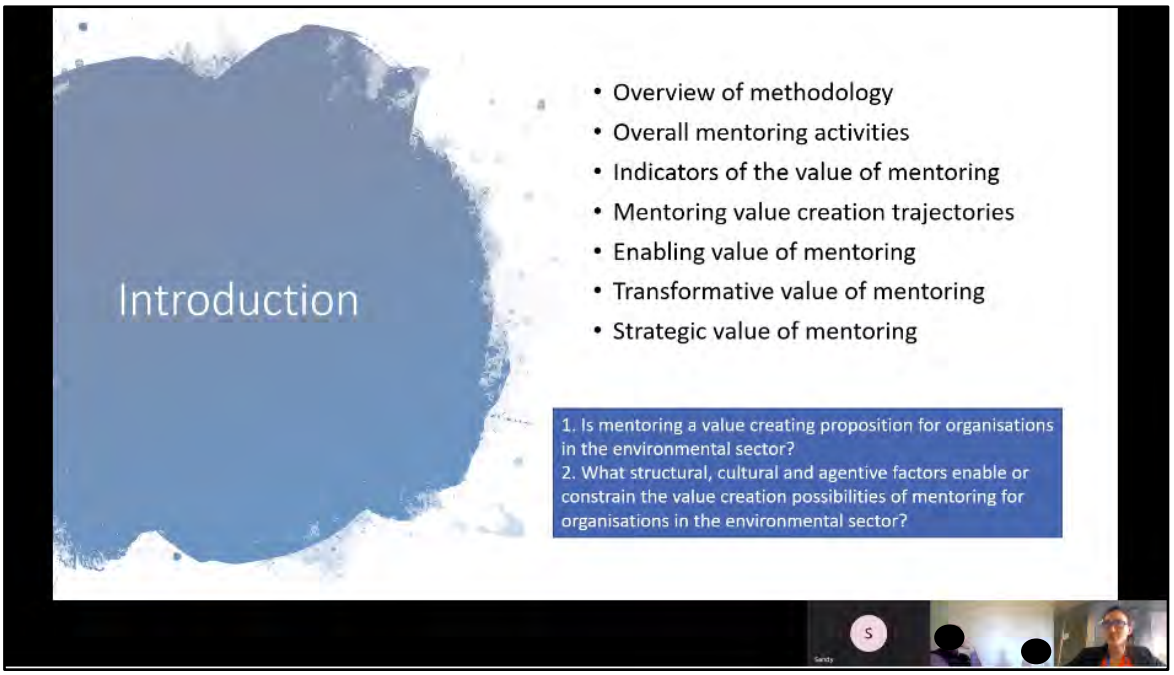


Figure 37: Screen shot of the online mirror data workshop with the environmental consulting company

The duration of the workshops was about an hour. During the workshops, discussion on the historical origins of certain constraints (for example, writing ability) took place, an important step in the process, according to Engeström (2008). Clarification and verification of the data and findings was important at each level of value creation (see Figure 38). The workshops aimed to address the final sub-question of the research: What is the strategic value of mentoring for organisations in the environmental sector? Strategic value can be defined as communities ensuring that their learning makes a difference (Wenger-Trayner & Wenger-Trayner, 2019). The workshops provided the opportunity for the researcher and the research participants to discuss the strategic value of the findings for the organisations and human capacity development initiatives of the environmental sector. The focus on strategic value enables:

> The clarity of the strategic context in which the network is operating and the ability of the network to engage in strategic conversations about the value it creates. This is important as knowledge and learning are often seen as operational challenges when in fact they are primarily strategic issues.
>
> (Wenger-Trayner, 2014, p. 4)

This strategic solution driven discussion is captured in the final chapter of this thesis.

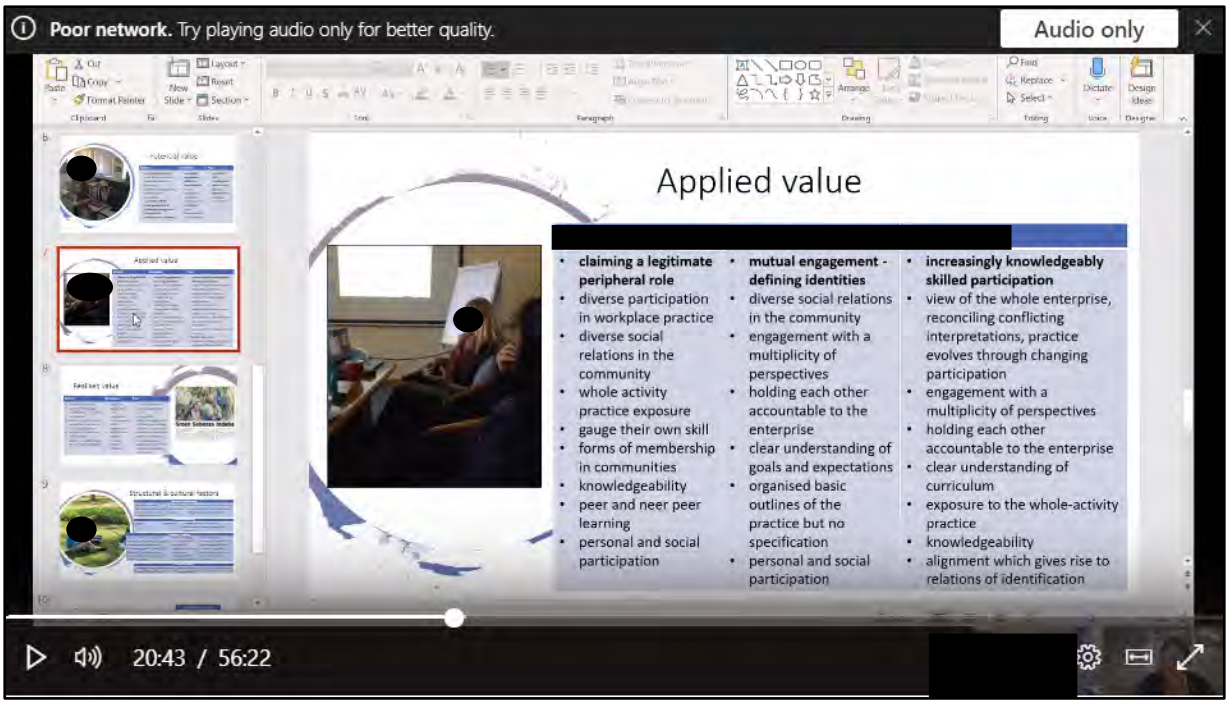


Figure 38: Screen shot of the online mirror data workshop with the environmental NPO

3.6 Data analysis

I used coding to categorise my data and thus sort the data as in Table 7 below (Maxwell, 2012, Cohen et al., 2007). The data was organised and indexed as follows:

- Case study 1 (environmental NPO): C1
- Case study 2 (environmental consulting company): C2
- Context: CA/B
- Visit: VA/B/C
- Administrator: A
- Coordinator Sarah: C
- Executive director Ralph: E
- Mentor: M
    - C1M1: Kiara
    - C1M2: Malusi
    - C1M3: Patrick
    - C1M4: Mary
    - C2M1: Mike
    - C2M2: Jack
- Pioneer: P
    - C1M1P1: Musi
    - C1M1P2: Nonhle
    - C1M1P3: Philile
    - C1M1P4: Zinhle
    - C1M2P1: Penny

- C1M2P2: Nomsa
- C1M3P1: Sanele
- C1M3P2: Simo
- C2M1P1: Anele
- C2M1&2P2: Mandla
- C2M1&2P3: Raymond

The following documents in Table 7 include documents analysed as well as 33 transcribed interviews and 10 questionnaires.

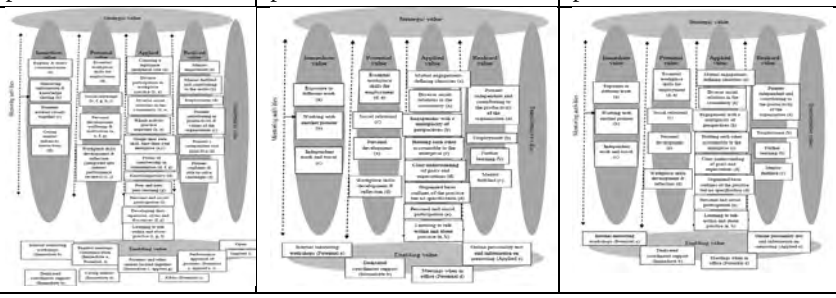
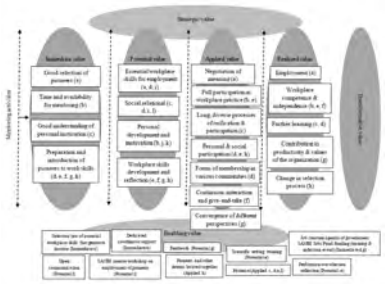
Table 7: Document list with coding

Code	Detail	Date
Documents		
C1Deed	Deed of Trust, 2012	
C1QReport	Quarterly Progress report April-June 2013	July 2013
C2QReportQ22013	Quarterly Progress Report (April-June 2013)	July 2013
C2QReportQ32013	Quarterly Progress Report (July-September 2013)	October 2013
C2QReportQ12014	Quarterly Progress Report (Jan-March 2014)	April 2014
C2QReportQ32014	Quarterly Progress Report (June-Oct 2014)	November 2014
C2QReportQ12015	Quarterly Progress Report (Jan-March 2015)	April 2015
Training Schedule	Schedule of Trained Beneficiaries	June 2015
Performance Evaluation Anele October 2013	Performance Evaluation of Incubant	October 2013
Performance Evaluation Mandla October 2014	Performance Evaluation of Pioneer	October 2014
SANBI Partnership list June 2012	SANBI Partnership List - Hosting and Permanent Placement Numbers	June 2012
2014 Symposium of Contemporary Conservation Practice Programme	2014 Symposium of Contemporary Conservation Practice Programme, Fern Hill Conference Centre, Howick, KwaZulu-Natal, South Africa	3-7 November 2014
SANBI Occupations Recruited	SANBI Presentation Occupations Recruited by Donovan Fullard	August 2014
Interviews		
C1CContext	Contextual profiling - Sarah	7 August 2014
C2M2Context	Contextual profiling - Mike	12 August 2014
ERContext	Contextual profiling - Eureta Rosenberg	15 March 2017
GRContext	Contextual profiling - Glenda Raven	15 August 2012
DFContext	Contextual profiling - Donavan Fullard	29 July 2015
C1M1VA	Kiara Visit A	28 Oct 2014
C1M2VA	Malusi Visit A	31 Oct 2014
C1M3VA	Patrick Visit A	28 Nov 2014
C2M1VA	Mike Visit A	31 Oct 2014
C2M2VA	Jack Visit A	31 Oct 2014
C1M1P2VA	Nonhle Visit A	18 Feb 2015
C1M1P3VA	Philile Visit A	18 Feb 2015
C1M1P4VA	Zinhle Visit A	24 Feb 2015
C1M3P1VA	Sanele Visit A	13 Feb 2015
C1M3P2VA	Simo Visit A	16 Feb 2015
C2M1P1VA	Anele Visit A	13 Feb 2015
C2M1&2P2VA	Mandla Visit A	18 Feb 2015

C1M1VB	Kiara Visit B	14 May 2015
C1M2VB	Malusi Visit B	18 June 2015
C1M3VB	Patrick Visit B	24 June 2015
C1M4VB	Mary Visit B	8 June 2015
C2M1VB	Mike Visit B	7 July 2015
C2M2VB	Jack Visit B	28 May 2015
C1M1P1VB	Musi Visit B	14 May 2015
C1M1P2VB	Nonhle Visit B	14 May 2015
C1M1P3VB	Philile Visit B	14 May 2015
C1M1P4VB	Zinhle Visit B	14 May 2015
C1M2P1VB	Penny Visit B	7 July 2015
C1M3P1VB	Sanele Visit B	24 June 2015
C2M1&2P2VB	Mandla Visit B	26 May 2015
C2M1&2P3VB	Raymond Visit B	26 May 2015
C1EVC	Executive Director Ralph Visit C	29 Aug 2019
C2M2VC	Jack Visit C	27 Nov 2018
Questionnaires		
C2M2Q	Jack	30 July 2014
C1M1P1Q	Musi	12 Aug 2014
C1M1P2Q	Nonhle	10 Sep 2014
C1M1P3Q	Philile	10 Sep 2014
C1M1P4Q	Zinhle	10 Sep 2014
C1M2P2Q	Nomsa	10 Sep 2014
C1M3P1Q	Sanele	10 Sep 2014
C1M3P2Q	Simo	10 Sep 2014
C2M1P1Q	Anele	14 July 2014
C2M1&2P2Q	Mandla	14 July 2014
Observations		
Site visit 1 C1	Site visit 1 at the environmental NPO	14 May 2015
Site visit 1 C2	Site visit 1 at the environmental consulting company	26 May 2015
Fieldwork C2	Fieldwork site visit with the environmental consulting company	4 October 2016
C1 mentor meeting	Environmental NPO mentors meeting	18 June 2015
C1M1Obs	Environmental NPO mentor Kiara and pioneer meeting	14 May 2015

Table 8 represents the analytical framework incorporating the morphogenetic framework and the value creation conceptual framework within the analysis. Theoretical categories, which are *"derived from prior theory"* (Maxwell, 2012, p.113) are known as etic categories. NVivo, a qualitative data analysis computer software, was used to store, sort and analyse the data in organisational categories (Maxwell, 2012) for further analysis. Data was stored systematically according to the phases of data collection. Inductive, abductive and retroductive modes of analysis were used, as seen in Table 8.

Table 8: Analytical framework incorporating the morphogenetic framework and the value creation conceptual framework

<table>
<tr><th colspan="5">Environmental NPO</th></tr>
<tr><td rowspan="4">LAYER 3 Synthesis analysis of overall value creation & morphogenetic analysis</td><td></td><td>Mentor 1 (Kiara) and pioneers</td><td>Mentor 2 (Malusi) and pioneers</td><td>Mentor 3 (Patrick) and pioneers</td></tr>
<tr><td>LAYER 1
Inductive analysis</td><td colspan="3">  </td></tr>
<tr><td rowspan="3">LAYER 2
Abductive analysis
Retroductive analysis</td><td colspan="3">PEPS</td></tr>
<tr><td colspan="3">CEPS</td></tr>
<tr><td colspan="3">SEPS</td></tr>
<tr><th colspan="5">Environmental consulting company</th></tr>
<tr><td rowspan="4">LAYER 3 Synthesis analysis of overall value creation & morphogenetic analysis</td><td></td><td colspan="3">Mentor 1&2 (Mike, Jack) and pioneers</td></tr>
<tr><td>LAYER 1
Inductive analysis</td><td colspan="3">  </td></tr>
<tr><td rowspan="3">LAYER 2
Abductive analysis
Retroductive analysis</td><td colspan="3">PEPS</td></tr>
<tr><td colspan="3">CEPS</td></tr>
<tr><td colspan="3">SEPS</td></tr>
</table>

An inductive mode of analysis allowed conclusions to be made about the organisation, by identifying patterns that emerged from the data in relation to the research questions (Danermark et al., 2002). Categories or themes are typically developed to summarise the data. Mainly inductive analysis took place at Layer 1, although this could not be done without some abduction, since the analysis was shaped by the value creation framework. Induction was a useful process at this first layer to work through the large amount of data into the manageable value creation cycles of immediate, potential, applied and realised value. After reading through the data in order to become familiar with it, I used induction to analyse and code the text according to the cycles of value creation, as seen in Figure 39 which shows the coloured coding on the right of the screen.

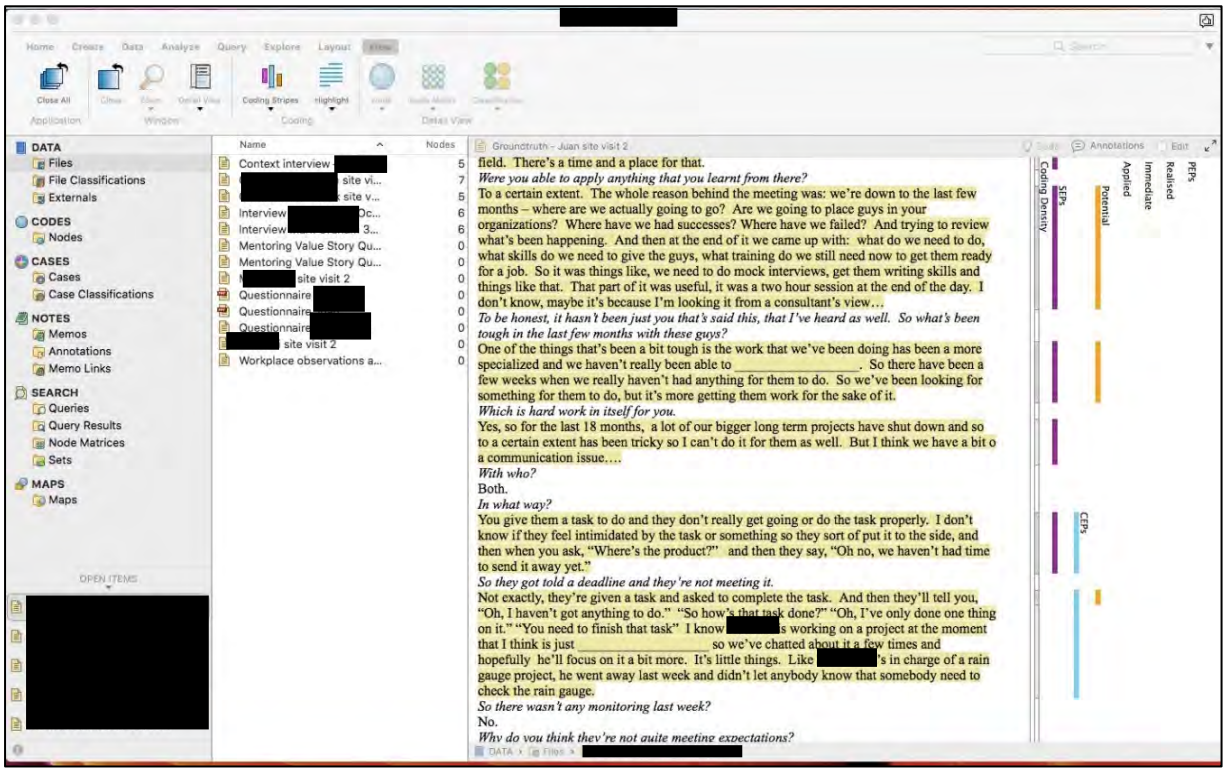
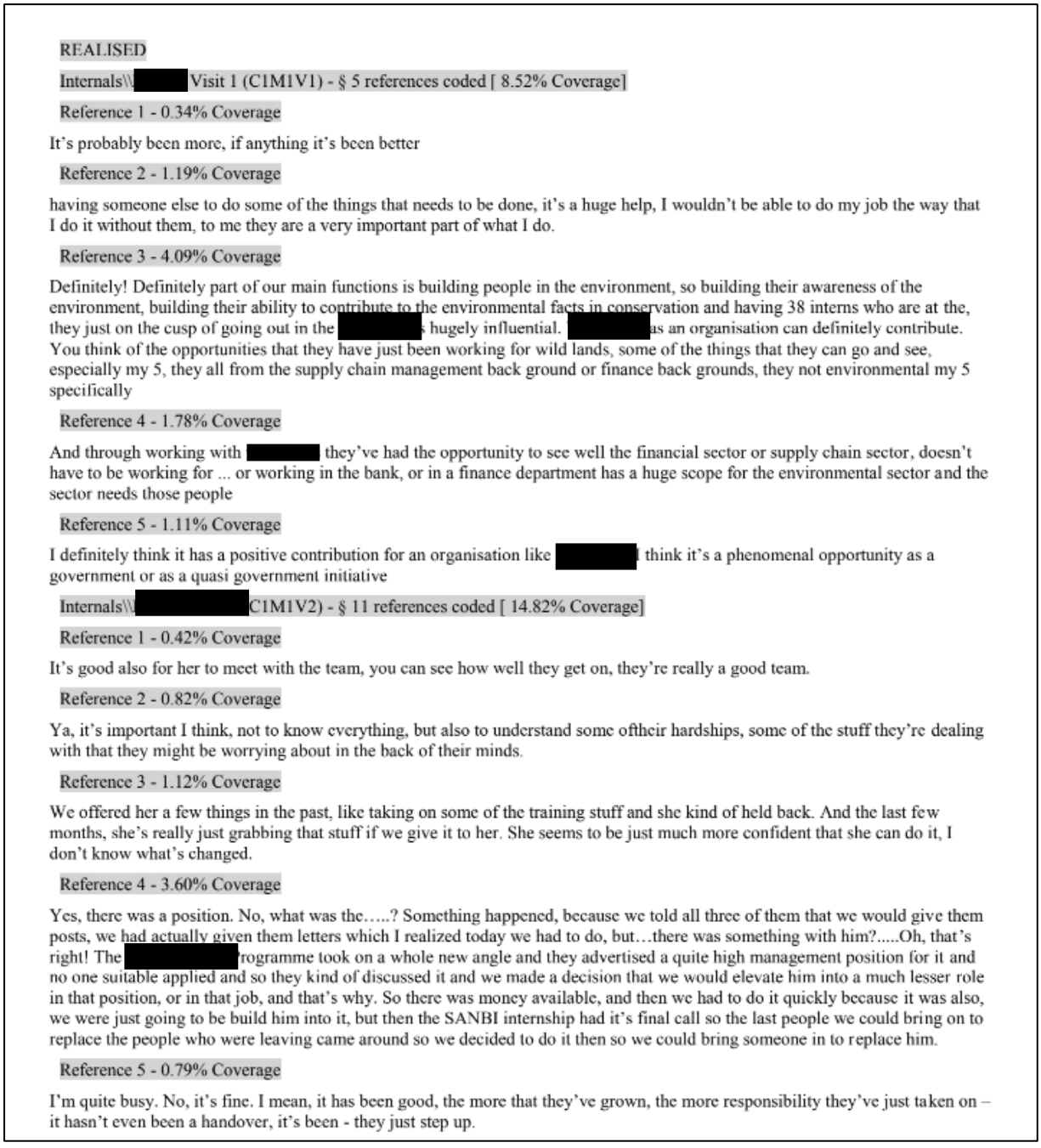


Figure 39: Screen shot of Nvivo analysis

Data sheets organised according to the value creation cycles were then produced by Nvivo for each organisation (see Figure 40 below). I read through these sheets to derive summaries of mentoring activities for the groupings of mentors with pioneers according to each value creation cycle as analytical memos (Bassey, 1999) (see Table 8 that follows).



REALISED

Internals\\[redacted] Visit 1 (C1M1V1) - § 5 references coded [8.52% Coverage]

Reference 1 - 0.34% Coverage

It's probably been more, if anything it's been better

Reference 2 - 1.19% Coverage

having someone else to do some of the things that needs to be done, it's a huge help, I wouldn't be able to do my job the way that I do it without them, to me they are a very important part of what I do.

Reference 3 - 4.09% Coverage

Definitely! Definitely part of our main functions is building people in the environment, so building their awareness of the environment, building their ability to contribute to the environmental facts in conservation and having 38 interns who are at the, they just on the cusp of going out in the [redacted] hugely influential. [redacted] as an organisation can definitely contribute. You think of the opportunities that they have just been working for wild lands, some of the things that they can go and see, especially my 5, they all from the supply chain management back ground or finance back grounds, they not environmental my 5 specifically

Reference 4 - 1.78% Coverage

And through working with [redacted] they've had the opportunity to see well the financial sector or supply chain sector, doesn't have to be working for ... or working in the bank, or in a finance department has a huge scope for the environmental sector and the sector needs those people

Reference 5 - 1.11% Coverage

I definitely think it has a positive contribution for an organisation like [redacted] I think it's a phenomenal opportunity as a government or as a quasi government initiative

Internals\\[redacted] C1M1V2) - § 11 references coded [14.82% Coverage]

Reference 1 - 0.42% Coverage

It's good also for her to meet with the team, you can see how well they get on, they're really a good team.

Reference 2 - 0.82% Coverage

Ya, it's important I think, not to know everything, but also to understand some oftheir hardships, some of the stuff they're dealing with that they might be worrying about in the back of their minds.

Reference 3 - 1.12% Coverage

We offered her a few things in the past, like taking on some of the training stuff and she kind of held back. And the last few months, she's really just grabbing that stuff if we give it to her. She seems to be just much more confident that she can do it, I don't know what's changed.

Reference 4 - 3.60% Coverage

Yes, there was a position. No, what was the…..? Something happened, because we told all three of them that we would give them posts, we had actually given them letters which I realized today we had to do, but…there was something with him?.....Oh, that's right! The [redacted] rogramme took on a whole new angle and they advertised a quite high management position for it and no one suitable applied and so they kind of discussed it and we made a decision that we would elevate him into a much lesser role in that position, or in that job, and that's why. So there was money available, and then we had to do it quickly because it was also, we were just going to be build him into it, but then the SANBI internship had it's final call so the last people we could bring on to replace the people who were leaving came around so we decided to do it then so we could bring someone in to replace him.

Reference 5 - 0.79% Coverage

I'm quite busy. No, it's fine. I mean, it has been good, the more that they've grown, the more responsibility they've just taken on – it hasn't even been a handover, it's been - they just step up.

Figure 40: Example of Nvivo produced and analysed data sheets

Through inductive analysis generalised conclusions could be made beyond what is known in the data (Danermark et al., 2002). The summaries of mentoring according to each value creation cycle as analytical memos in Table 9 below produced conclusions, from interviewing the mentors and pioneers, which informed statements regarding other mentors and pioneers in the case study organisation.

Table 9: Example of analytical memo of mentoring activities

Immediate value (IV)	Potential value (PV)	Applied value (AV)	Realised value (RV)
1. Pioneer involved in many tasks 2. Working with another pioneer doing data capturing 3. Independent work and travel	1. Internal mentoring workshops 2. Pioneer had to lead on work tasks as soon as she started 3. Mentoring less structured with new pioneer 4. Meetings when office-based to catch up and plan 5. Pioneer adjusting to meeting deadlines	1. Mentor used online information on mentoring and personality profiles to improve his mentoring and understand his pioneer 2. Mentor had one-on-one sessions with pioneer to address challenges 3. Mentor striving to set an example for pioneers with procedures 4. Mentor provided the pioneer with background to the work 5. Mentor encouraged the pioneers to engage and share with him	1. Pioneer able to travel extensively and run training independently 2. Pioneer offered a position in the organisation 3. Mentor satisfied with the experience

The tables of mentoring activities (Table 9) for each value creation cycle, developed as analytical memos, were then further developed as analytical statements presenting the essential findings emerging from the data in these analytical memos. Analytical statements are formed as the connecting analytical strategy to "analyse and reduce data" and to "identify the key relationships that ties the data together into a narrative and sequence" (Maxwell, 2012, p.115). These analytical statements were presented in a diagram (example in Figure 41) which highlighted essential findings of immediate, potential, applied and realised value of the mentoring activities identified in the analytical memos (Table 9).

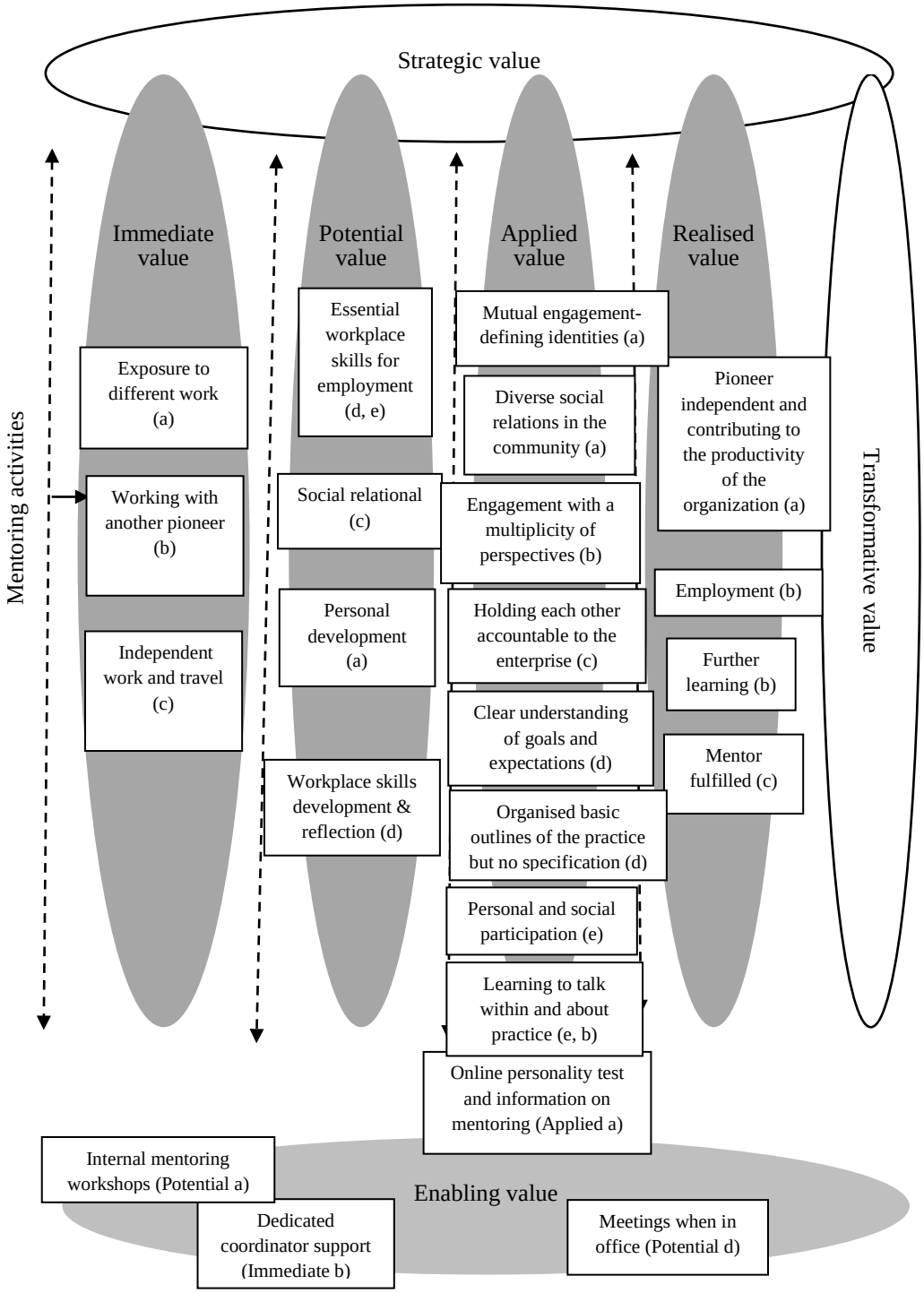
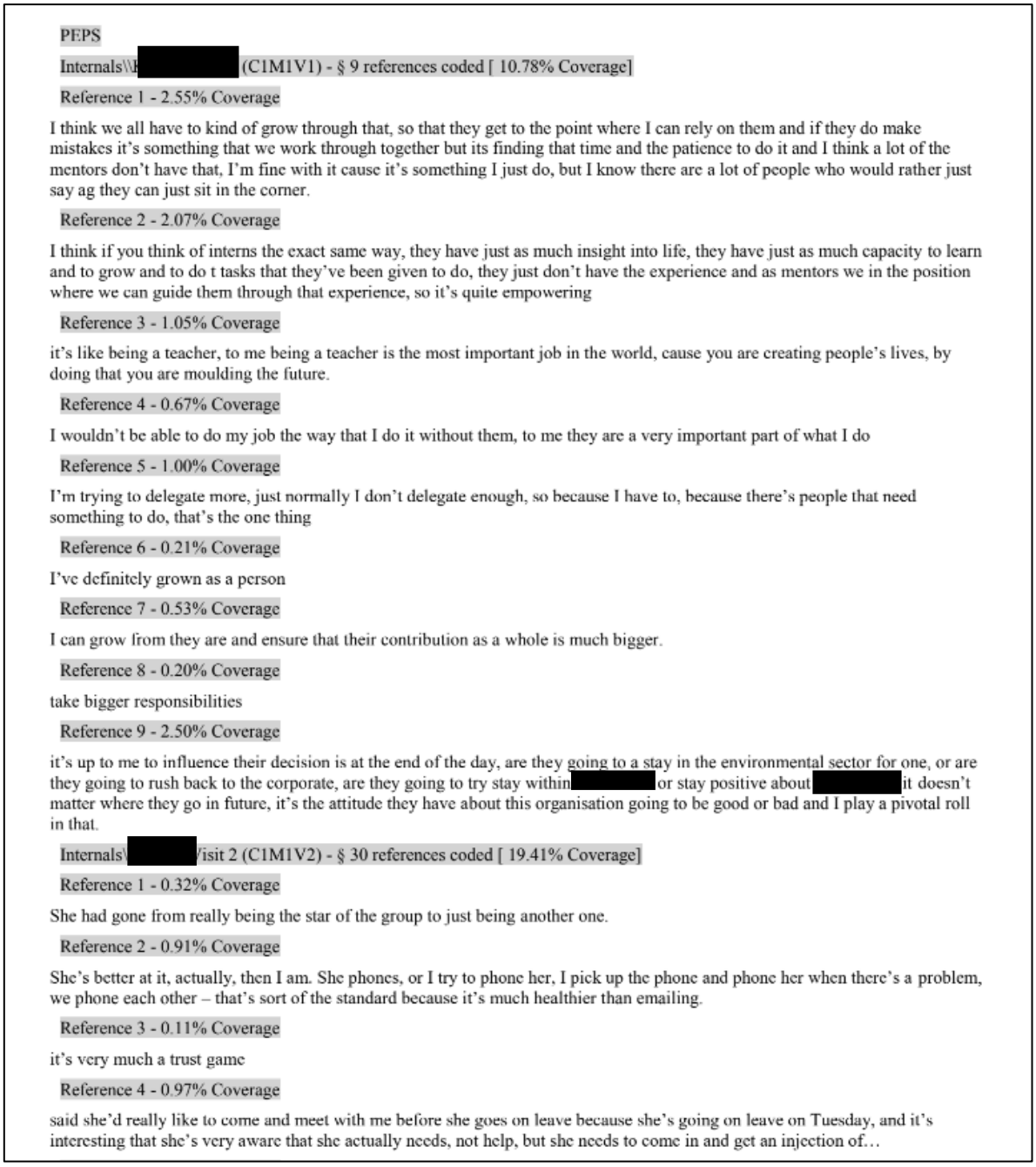


Figure 41: Example of the value creation framework presenting analytical statements using the value creation framework of Wenger-Trayner and Wenger-Trayner (2014)

Transformative and strategic value were not addressed at this stage in the research (this is covered in Chapters 5 and 6). However, during the process of analysis described above, if certain factors emerged in the data as possibly having enabling value, they were noted on the diagram. Enabling value was further explored and expanded on in Chapter 5 and required abductive analysis. At Layer 1, the analysis looked at mentoring as a value creating proposition in the organisations using the social learning theory of communities of practice and legitimate peripheral participation, through the structure of the value creation framework to answer sub-

questions 2 a, b, c and d.

The analysis required both abduction and retroduction. “Induction gives no guidance as to how, from something observable, we can reach knowledge of underlying structures and mechanisms; it is limited to conclusions of empirical generalizations and regularities” (Danermark et al., 2002, p. 87). A combination of abductive and inductive modes of analysis were used to identify themes in the data using social learning and social realism, including analytical dualism and morphogenetic analysis (Danermark et al., 2002) at Layer 2. A retroductive mode of analysis was used to make explanations of mechanisms that were shaping the way things were (Danermark et al., 2002) through identifying enabling or constraining structural, cultural and agentive factors at Layer 2. Nvivo was used to code for Cultural Emergent Properties (CEPs), People Emergent Properties (PEPs) and Structural Emergent Properties (SEPs) which were represented in summary sheets (see Figure 42) which were further developed and explained in Chapter 5.



PEPS

Internals\\[redacted] (C1M1V1) - § 9 references coded [10.78% Coverage]

Reference 1 - 2.55% Coverage

I think we all have to kind of grow through that, so that they get to the point where I can rely on them and if they do make mistakes it's something that we work through together but its finding that time and the patience to do it and I think a lot of the mentors don't have that, I'm fine with it cause it's something I just do, but I know there are a lot of people who would rather just say ag they can just sit in the corner.

Reference 2 - 2.07% Coverage

I think if you think of interns the exact same way, they have just as much insight into life, they have just as much capacity to learn and to grow and to do t tasks that they've been given to do, they just don't have the experience and as mentors we in the position where we can guide them through that experience, so it's quite empowering

Reference 3 - 1.05% Coverage

it's like being a teacher, to me being a teacher is the most important job in the world, cause you are creating people's lives, by doing that you are moulding the future.

Reference 4 - 0.67% Coverage

I wouldn't be able to do my job the way that I do it without them, to me they are a very important part of what I do

Reference 5 - 1.00% Coverage

I'm trying to delegate more, just normally I don't delegate enough, so because I have to, because there's people that need something to do, that's the one thing

Reference 6 - 0.21% Coverage

I've definitely grown as a person

Reference 7 - 0.53% Coverage

I can grow from they are and ensure that their contribution as a whole is much bigger.

Reference 8 - 0.20% Coverage

take bigger responsibilities

Reference 9 - 2.50% Coverage

it's up to me to influence their decision is at the end of the day, are they going to a stay in the environmental sector for one, or are they going to rush back to the corporate, are they going to try stay within[redacted] or stay positive about[redacted] it doesn't matter where they go in future, it's the attitude they have about this organisation going to be good or bad and I play a pivotal roll in that.

Internals\[redacted]Visit 2 (C1M1V2) - § 30 references coded [19.41% Coverage]

Reference 1 - 0.32% Coverage

She had gone from really being the star of the group to just being another one.

Reference 2 - 0.91% Coverage

She's better at it, actually, then I am. She phones, or I try to phone her, I pick up the phone and phone her when there's a problem, we phone each other – that's sort of the standard because it's much healthier than emailing.

Reference 3 - 0.11% Coverage

it's very much a trust game

Reference 4 - 0.97% Coverage

said she'd really like to come and meet with me before she goes on leave because she's going on leave on Tuesday, and it's interesting that she's very aware that she actually needs, not help, but she needs to come in and get an injection of…

Figure 42: Example of Nvivo produced and analysed data sheet for PEPs

At Layer 3, found in Chapter 5, I analysed structural, cultural and agential conditioning in the contextual profiling data and case study data to answer research sub-question 1. I then referred to the analysis of the different levels of social interaction as it relates to SEPs, CEPs and PEPs. At Layer 3 I analysed for structural, cultural and agential elaboration or reproduction and addressed sub-question 3. These findings were then represented in the framework example seen in Figure 43 as consolidated findings of transformative value of mentoring for the environmental organisations.

Figure 43 uses the morphogenetic framework to explain change over time as transformative value of mentoring for the case study organisations. It provides an overview of how the structural, cultural and agential elaboration and reproduction came about in the case study organisations. At T1 the conditioning context is introduced including generative mechanisms that are indirect and direct. From these generative mechanisms emerged structural and cultural emergent properties in the organisation. At T1, when considering agency, the pioneers were at this stage unemployed youth entering Groen Sebenza as primary agents and the mentors were employees with corporate agency in the workplace and primary agency as mentors in the workplace.

During T2-T3 the value creation analysis of immediate, potential, applied, realised value in Chapter 4 provided explanation of the social-cultural and group interaction as mentoring in the case study organisations. The constraining and enabling SEPs and CEPs identified during T2 to T3 of the mentoring activities (e.g. Table 9) from Chapter 4 are introduced for the mentors and pioneers. The explanation of enabling value is thus examined more deeply and thoroughly in comparison with the factors of enabling value depicted in Figure 41 in Chapter 4.

In Figure 43 the emergence of PEPs identified during T2 to T3 through the mentoring activities from Chapter 4 are introduced. It is through the interaction of these SEPs, CEPs and PEPs that structural cultural and agential elaboration and the transformative value of mentoring for the case study organisations at T4 is possible or not.

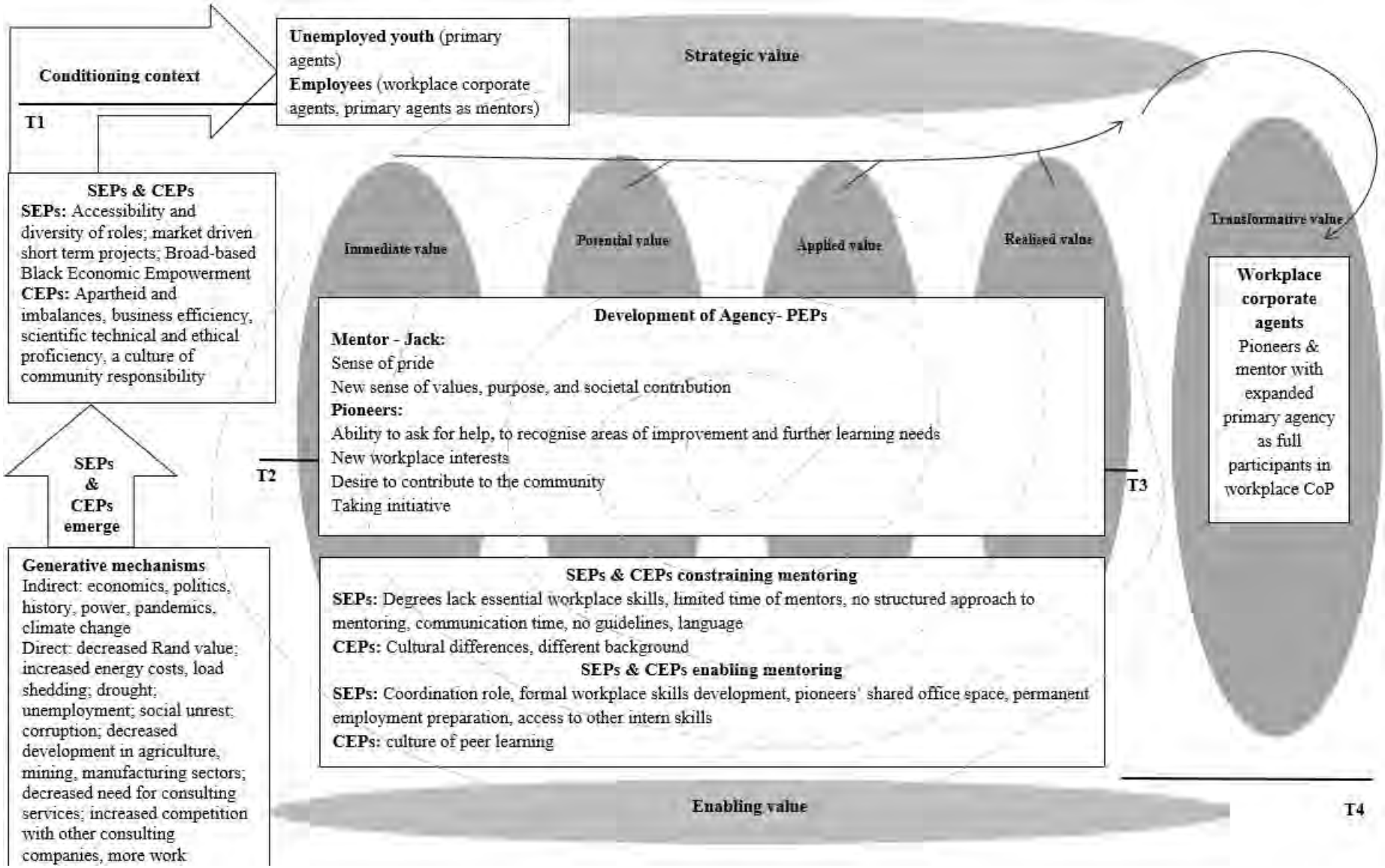


Figure 43: Example of consolidated findings of transformative value of mentoring for the environmental organisations

3.7 Conclusion

Chapter 3 explained the methodological framework that was used to examine structure, culture and agency as well as to identify and explain social learning as a value-creating proposition in environmental organisations as case studies. The methods of data generation and the analytical framework incorporating the morphogentic framework and value creation framework were also introduced. The next chapter presents the findings of the exploration of mentoring as a value creation proposition in an environmental non-profit organisation and environmental consulting company.

CHAPTER 4:

MENTORING AS A VALUE CREATING PROPOSITION IN SOUTH AFRICAN ENVIRONMENTAL ORGANISATIONS

4.1 Introduction

Using the methodological and analytical frameworks presented in Chapter 3, Chapter 4 explains mentoring as a value-creating proposition in the case study environmental organisations. As part of the analytical framework used in Chapter 5 to understand the structural, cultural and agential conditioning, the context and history of mentoring in the case study environmental organisations is presented. The findings of immediate, potential, applied and realised value of mentoring for each mentor and their pioneer/s is discussed and presented as mentoring activities, indicators of social learning value creation and trajectories of social learning value creation.

4.2 Case 1: Mentoring as a value creating proposition in an environmental non-profit organisation (NPO)

4.2.1 The context of mentoring in an environmental NPO

The first case that I researched was an organisation that is a non-profit environmental organisation (NPO) based in KwaZulu-Natal, South Africa. This NPO was registered as a trust in 2012. The vision of the Trust is:

> the provision of strategic support for biodiversity conservation programs and projects. The emphasis shall be on expanding the (NPO)'s conservation footprint, supporting both formal and informal biodiversity conservation, especially conservation based community development projects, and to act as a catalyst for the protection of threatened species and to foster increased conservation awareness amongst the people of South Africa.
>
> (Deed of Trust, 2012)

I refer to the organisation as the 'NPO' in this thesis. The NPO undertakes its projects through project grant funding, donations and tourism. A Board of Trustees is responsible for the overall management and control of the Trust.

Prior to Groen Sebenza, the NPO's leadership team was comprised of white individuals and this was a concern for the leadership as although there had been many attempts to support black professionals to reach leadership positions, the individuals at middle to senior level had left the

organisation due to various issues (C1EVC). The NPO Executive Director highlighted the opportunity that Groen Sebenza offered the NPO:

> Getting very qualified black people, putting them in a position and having a two-year gap of actually getting them right because we realise that we don't have a structured way … the moment they join (the NPO) they are handed a ton of responsibility and expected to perform. We didn't have the patience, rather than the structure, to let someone settle in and understand their issues and work with them over a two-year period…Groen Sebenza was an opportunity to bring them in with two years to work with them and then after two years, we have all these people to work with that are representative of our society, because it is a big issue.
>
> (C1EVC)

At the time of the placement of Groen Sebenza pioneers, the NPO had structured their programmes across 12 Community Ecosystem Based Adaptation clusters in six provinces, employing about 1500 people (C1CContext). According to their website (not included for anonymity), these programmes included:

1. A project run since 2004 where unemployed individuals propagate indigenous trees and barter the trees for livelihood support (food, bicycles, building materials, water tanks, education support, school uniforms and stationery).
2. A project where the trees propagated in the above-mentioned project are used in restoration sites.
3. A project for unemployed individuals to collect and trade recyclable waste for livelihood support.
4. A project run since 2015 for unemployed individuals to barter trees and waste through the above programmes for bundles of quality, second clothing collected by schools, and then sell the clothing to generate income.
5. A small and micro enterprise development project run since 2013 that uses capital grants in exchange for trees. Mentoring, training and skills development was provided.
6. A project aimed to expand the conservation of natural areas. Securing land with communities in rural areas is a historical niche of the NPO.
7. A programme responsible for the learning processes that support the extended NPO teams and networks in the above projects. According to the programme coordinator, the processes that allow for "changes in values and thinking", make changes in the above projects sustainable over time. The above projects are intended to "address the physical needs of our transforming ecosystems and the people who are impacted by this". This specific

project based its work on the principles that “human wellbeing is directly dependent on environmental wellbeing” and learning processes are framed as “skills development, mentorship, leadership development and providing platforms for engaging with, and learning about the environment and sustainability” (C1CContext). The NPO’s uptake of Groen Sebenza as a host organisation was housed within this programme.

In 2012 the Executive Director represented the organisation as a partner of the Groen Sebenza proposal, offering to host 38 pioneers with match funding (SANBI Partnership List June 2012). This project was the first structured internship-type project in the NPO (C1CContext). Mentoring and learning was integrated into many of the NPO projects mentioned.

During the period that the pioneers were placed in the NPO, a coordinator of the project was appointed (Figure 44). The coordinator became responsible for the project, during her transition from a marketing portfolio into training, environmental education and then Groen Sebenza. The coordinator also managed the programme mentioned above that was responsible for the learning processes that support the extended NPO teams and networks in the above projects. Her Master’s degree studies were focused on this work (C1CContext).

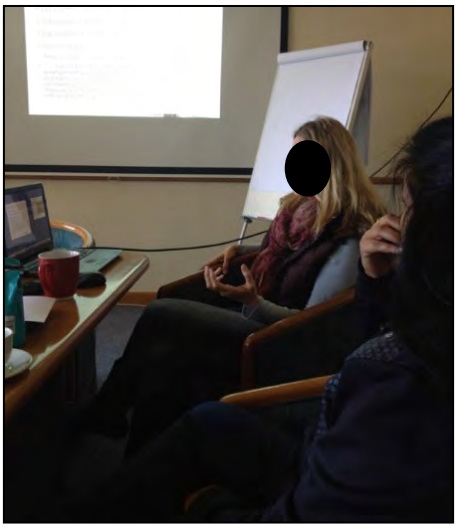


Figure 44: The NPO's coordinator during a Groen Sebenza mentor workshop

The coordinator said that part of the motivation for the NPO to participate in Groen Sebenza was economic: “I think the free staff to be honest. It was an opportunity; we were interested in firstly the fact they were a free resource” (C1CContext). She also mentioned that the

placements were graduates with degrees from rural areas. The coordinator described this as a motivation:

> But it was the recruitment of graduates, graduates from this sector, which is something that we wanted, so to bring people who were educated from rural areas, it adds a whole new dynamic to the organisation, and bringing them in actually doubled the number of graduates that we have in the organisation. From an educational level perspective, it was very much only senior management that had degrees so it really shifted that in the organisation. So that was obviously a huge part of it. I don't think to be honest that at that stage they were thinking about necessarily the mentorship component or the skills in the sector.
>
> (C1CContext)

Thirty-eight pioneers were placed throughout the NPO: at the head office in Hilton, northern Zululand, Durban in the provinces of KwaZulu-Natal as well as in the Gauteng and the Western Cape provinces. Work responsibilities and roles varied: community development and engagement, GIS and mapping, training, environmental education, health and safety, project management, data capturing, grant administration, project administration, conservation. Senior management requested placements based on identified gaps in the organisation and possible spaces, as well as the positions and criteria indicated by Groen Sebenza (C1CContext, SANBI Occupations Recruited Presentation). The coordinator mentioned that in the beginning of placement, some pioneers were able to shift roles and positions and there were replacements made at times (C1CContext). Each pioneer was to be assigned a mentor (SANBI, 2014). The ratios of mentor to pioneer/s in the NPO varied considerably, in some cases one mentor was responsible for five pioneers and some pioneers had two mentors with different roles. In most cases the ratio was one mentor to one pioneer (C1CContext).

In early 2014 the coordinator organised and facilitated mentoring workshops for the NPO's mentors. The first workshop provided "an overview of the program and we discussed mentorship as a whole" (C1CContext):

> One of the things was to look at the ways we currently mentor without realising it is mentorship. I wanted people to not see it as a massive job that they have to do, some of the admin is, and some of the things they have to put more effort into, but I wanted them to really reflect on what they were going to be doing and how they could just build on that a bit.
>
> (C1CContext)

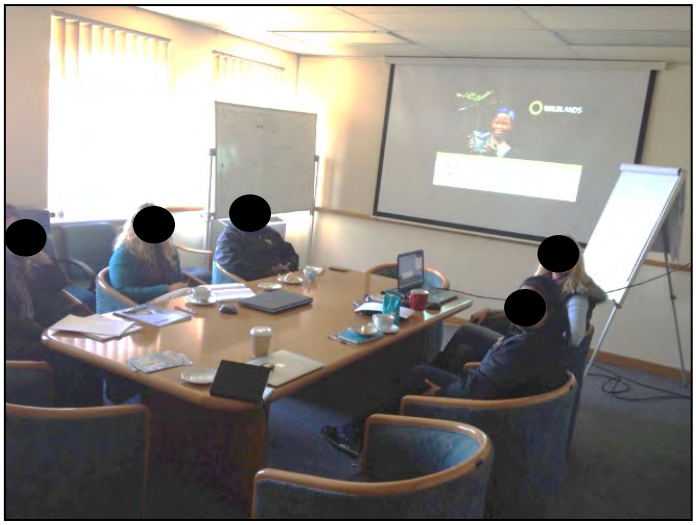


Figure 45: NPO mentors at a mentoring workshop run by the coordinator

The workshops were run three months after the pioneers had joined the NPO and once the coordinator felt that the mentors had settled into their roles (Figure 45). The coordinator organised the workshops to suit the mentors' busy schedules: "I have to work around their time, I make sure in advance that they can make it on the day. All of them are so busy. I try and make sure that the majority of them can make it" (C1CContext). These workshops allowed the mentors to discuss and share their challenges and approaches to mentoring:

> We had a couple of the mentors, that we had noticed were really good, and got them to present some of their ideas – a range of different things – one of them dealt with the different experiences he has had with the pioneers, another dealt with discipline because he has had challenges with his own discipline and had some really creative ways of dealing with it.
>
> (C1CContext)

Figure 46: The NPO coordinator at a SANBI-led mentoring workshop

SANBI provided mentoring materials for the organisations at the start of Groen Sebenza during SANBI-led mentoring workshops (Figure 46). The coordinator would attend these workshops and then share the information and materials with the mentors at their internal workshops in order to make the best use of their time. An administrator was also appointed to help manage the many "challenges with pioneers" and an "administratively intensive" project (C1CContext). As described in Chapter 3, questionnaires were completed to find out more about the pioneers and their mentors in order to select research participants. The diagram illustrates the different pioneers and mentors that were selected and their connections to the coordinator, administrator and Executive Director. Each of the selected mentors and pioneers will be introduced.

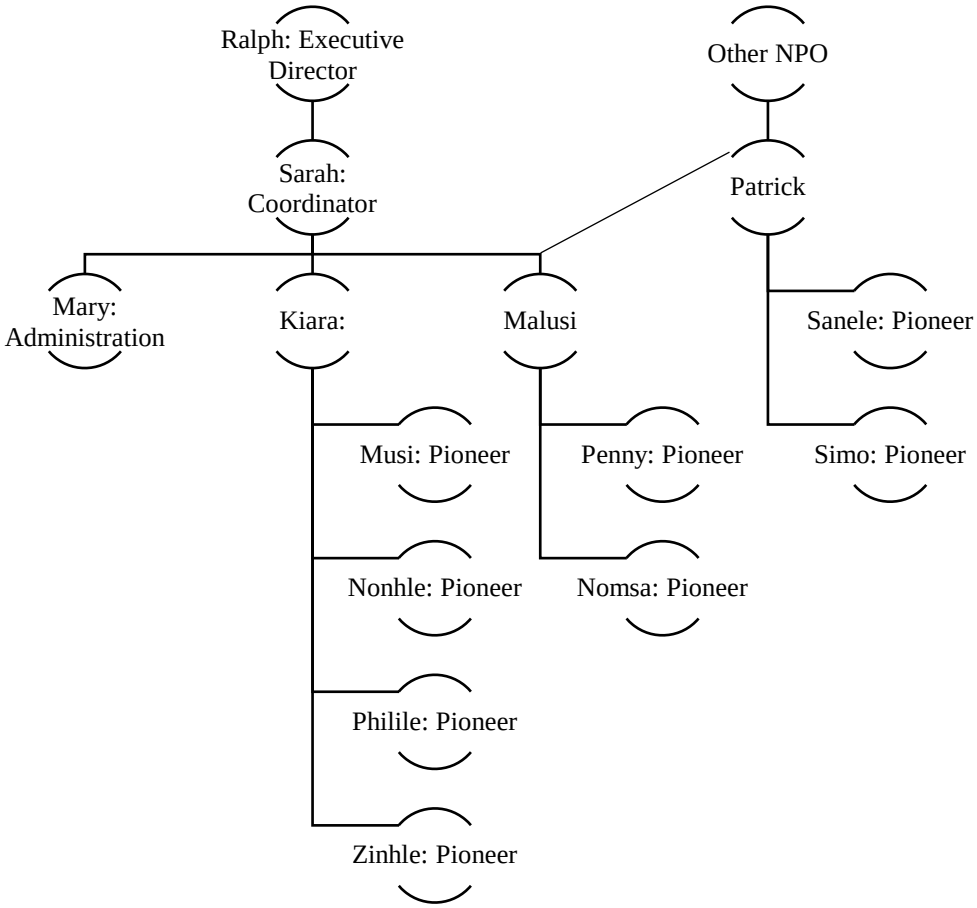


Figure 47: Organogram of environmental NPO pioneer support

4.2.1.1 Mentor 1 (Kiara)

Mentor 1 was a project information systems manager and had only just been employed at the NPO (two months after the pioneers had joined). She felt she had experience in mentoring in

previous jobs, although she referred to this as experience in providing guidance that was not necessarily only through being in a more senior position. She mentioned that she had not been "directly a mentor" prior to Groen Sebenza (C1M1VA).

- **Pioneer 1 (Musi):** In 2014 Musi was 22 years old and was undertaking a part-time Honours degree in Commerce and had not been part of an internship or had mentoring before. This was his first job (C1M1P1Q, C1M1P1VB).
- **Pioneer 2 (Nonhle):** In 2014 Nonhle was 34 years old and she had a National Diploma in Management and had not been part of an internship or had any mentoring before. She had previously worked for a law firm and a placement company (C1M1P2VA, C1M1P2Q).
- **Pioneer 3 (Philile):** In 2014 Philile was 24 years old and she had a Grade 12 qualification and had not been part of an internship or had mentoring before. Previously she was unemployed and had studied short courses through distance learning through the University of South Africa (UNISA) in conservation and household food security (C1M1P3VA, C1M1P3Q).
- **Pioneer 4 (Zinhle):** In 2014 Zinhle was 24 years old and she had a National Diploma in Accounting and had not been part of an internship or had mentoring before. She was already employed at the NPO, prior to her placement, as a grant administrator for the Natural Resource Management programme (C1M1P4VA, C1M1P4Q).

4.2.1.2 Mentor 2 (Malusi)

Mentor 2 was an assistant manager in green leadership and environmental education. He had no prior experience of mentoring before. He shared that he was once a student and "I experienced being mentored, but it wasn't a very rich mentoring relationship" (C1M2VA).

- **Pioneer 1 (Penny):** Penny was a replacement for a pioneer who left; she joined later than the others in November 2014. She had a Bachelor degree in Environmental Science and Geography and was studying an Honours degree part-time. She had one year of work experience at an NPO and was employed as an environmental facilitator (C1M2P1VB).

- **Pioneer 2 (Nomsa):** In 2014 Nomsa was 27 years old and she had a National Diploma in Nature Conservation. This was her first mentoring experience. She left the NPO in early 2015 (C1M2P2Q).

4.2.1.3 Mentor 3 (Patrick)

Mentor 3 was the Manager of the Applied Ecology Unit of a partner conservation organisation to the NPO. The NPO seconded pioneers to him. He had worked with one of the NPO's managers for many years and "(the NPO) wanted to place interns in a variety of positions that will be valuable for them" (C1M3VA). This mentor also had some background in environmental education and so "had this sort of mindset, setting them up for success" (C1M3VA).

- **Pioneer 1 (Sanele):** In 2014 Sanele was 29 years old and he had a Bachelor of Science degree in Environmental Science. He had experienced mentoring in a Department of Agriculture Forestry and Fisheries internship and was placed as an Expanded Public Works Programme coordinator managing Alternative Sustainable Coastal Livelihoods projects in four provinces. He was also placed in a Da Vinci Institute of Technology internship where he was exposed to Information Technology, while applying his research skills. He previously worked for a digital marketing company (C1M3P1VA, C1M3P1Q).
- **Pioneer 2 (Simo):** In 2014 Simo was 27 years old and he had a National Diploma in Nature Conservation. He left the NPO halfway through the two and a half year Groen Sebenza period (C1M3P2VA, C1M3P2Q).

Background to research participants has been provided and the context of mentoring in the NPO prior and in the early stages of implementation of Groen Sebenza was introduced; the value of mentoring experienced by the mentors and their pioneers will be explored next.

4.2.2 The value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

4.2.2.1 The immediate value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

In Chapter 3, the immediate value of mentoring was classified as mentoring activities and interactions that were considered 'meaningful' by the mentors and their pioneers. These activities and interactions can produce value in and of themselves. When interviewed, the mentors and pioneers were asked which activities and interactions that took place during the mentoring process or relationship, they considered meaningful. These included:

a) Regular team meetings for direct communication

Kiara felt that the regular meetings that she arranged with the pioneers did make a "huge difference". She emphasized that they would "meeting regularly", at least once a week, usually on a Monday morning. She confirmed that these meetings were taking place in October 2014 and during 2015 (C1M1VA, C1M1VB). I observed one of these meetings in May 2015 and gained insight into their value which is explored in more depth further on (C1M1Obs). Philile confirmed that the pioneers met with Kiara every week and during these meetings she was able to check how they were all doing, what they would like to do in the week, or what they needed to be doing (C1M1P3VB). Kiara described "direct communication" as important during the team meetings (C1M1VA). The immediate value of regular check-ins and direct face-to-face, open communication was apparent.

b) Easily available internal mentoring workshops for mentoring information

Kiara felt that the mentoring workshops that took place within the NPO (arranged by the coordinator) were "very useful". With regard to the SANBI mentoring workshops, she said that she did not have time to attend these; she was aware of them, but she did not attend (C1M1VA, C1M1VB).

> I think there have been three or four mentorship workshops that SANBI has provided. I haven't been to one of them. The last one that happened, I fully intended to go and then I just couldn't, there was no time. So that's probably been my biggest problem, is that I haven't been able to do that sort of thing.
>
> (C1M1VB)

The coordinator mentioned earlier that the mentors had time constraints and the workshop that she arranged were at convenient times for the mentors to ensure that they could attend (C1CContext). Kiara said that it was easier to attend them as "I can get to them – I don't have to go out and spend the whole day somewhere else" (C1M1VB). The immediate value was identified in the receiving of information and knowledge about mentoring the pioneers during the internal mentoring workshops as an alternative to finding time to attend external SANBI workshops.

c) Pioneers worked together as "a team" and helped each other

Musi and Nonhle both said that the pioneers helped each other and worked together as a team (C1M1P1VB, C1M1P2VA). I observed that they were able to communicate in the NPO office space (C1M1Obs) and Kiara confirmed that they worked closely as a team (C1M1VA). There was immediate value of the pioneers being able to work together and learn from each other.

d) A caring mentor

Nonhle referred to Kiara as "someone who is looking after you and wants you to succeed" and "a good mentor" (C1M1P2VB). Zinhle described the caring motherly approach that Kiara had:

> [Kiara] is not a mother first of all, but I think she told herself first time when this was handed to her, that you'll now be having these five interns, I think she took it from day one, that I will treat them as my children. Because at some stage, you feel that she has this mother approach, which is quite a good thing.
>
> (C1M1P4V2)

The immediate value of have a caring mentor is that the pioneers felt a close and trusting connection which would enhance their interactions and communication.

4.2.2.2 The potential value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

The potential value of mentoring activities was classified as having the potential to be realised later by the mentors and pioneers, for example: insights, resolutions, action plans, new relationships and resources that could be helpful in future. The potential value of the following mentoring activities was identified by the pioneers and mentors.

a) A mentor who is learning and fulfilled

Kiara felt that she had learned much and found mentoring rewarding: "to see other people grow,

so for me it's been fantastic to see my team growing and learning and me learning from them". Kiara had only recently started working at the NPO a few months after the pioneers had joined. She found that this was positive as she could "learn from them a little bit" (C1M1VA). Mentoring the pioneers held immediate value for her own personal development and motivation.

b) Internal mentor workshops for sharing challenges and learning

Kiara valued the internal NPO mentor workshops that were arranged by the coordinator as the different mentors could share their challenges and learn from each other: "That's quite a good thing to do, sitting with all the other people in the same organisation chatting about challenges that we have and learning from them, that's good" (C1M1VA). The potential value of these mentor workshops was that they allowed for reflection and learning by the mentor that would further support their relationship with the pioneers.

c) Alignment of pioneer work tasks with mentor's key performance areas

Kiara said that when the pioneers' tasks were not aligned to her Key Performance Areas she had to find other work for them to do, which she considered difficult: "A lot of the time I'm too busy to sit with them and say I need this done, can you do it, this is how you do it, I don't find that time and that's challenging, is trying to find new stuff for them to do and I don't feel I'm giving them enough opportunity" (C1M1VA). Kiara said that mentoring was part of management and her key performance areas. She considered the pioneers as part of her team of staff that she managed. She would often work closely with the pioneers on her own projects (C1M1VA). There was thus value in alignment of the pioneers' work with the mentor's KPAs in order for them to have continuous opportunities for workplace skills development.

d) Providing focus for the pioneers

Kiara said that the pioneers had energy, which she enjoyed and that she considered it valuable to "harness that energy and focusing it for them". She attributed this energy to their age and she noted her own experience at the age of the pioneers when she wanted to "save the world", before she learnt that you cannot do everything once she entered the work environment. She recommended guiding them to "take little chunks at a time, but you also don't want to put them down" (C1M1VA). Nonhle said that Kiara motivated her to be more positive about her future and her role in the organisation (C1M1P1VA). The potential value of providing the pioneers

with focus was that the pioneers would be able to achieve what they needed to learn in terms of workplace skills for employment.

e) Exposing the pioneers to diverse experiences

Kiara recognised the potential value in exposing the pioneers to many new experiences as part of their personal development – they were still discovering themselves and their career direction and so she felt that they should not only be placed in one place. Kiara explained her frustration when certain pioneers were not being exposed to the experiences she envisioned as important for their growth: "I feel just awful because I'm not giving her the opportunities to grow" (C1M1VB). Nonhle verified: "Yes, we've been encouraged not just to stick with one thing and to know what's happening in other departments" (C1M1P1VB). By meeting regularly, the mentor was able to check what the placements were doing or needed to be doing. Philile described how the mentor encouraged her by providing more diverse experiences to look forward to when she did have to do more mundane "boring" tasks (C1M1P3VB).

f) Mentor recognised pioneer strengths and potential experiences needed for growth

Kiara was able to identify a new area of experience that aligned with a pioneers' strengths: "There's potentially this opportunity in marketing – I don't think she's got the qualifications, she hasn't got the qualifications but I think she'd be very good in that environment, she's quite a vibey, outgoing person which no one sees because she's sort of shut in the corner" (C1M1VA). Philile was confident that Kiara would provide her with clear advice on what to do in a situation (C1M1P2VA). The potential value of Kiara recognising the pioneers' strengths and potential experiences needed for growth would support the pioneers' personal development.

g) Consideration of pioneers' emotional well-being

Kiara was able to notice when one of the pioneers did not seem to be happy. She noticed that one of the pioneers had changed from originally "being the star of the group" and made an effort to communicate with her (C1M1VA). Consideration of the pioneers' well-being professionally and personally was important and Kiara was able to assist the pioneer so that she improved "professionally and personally" (C1M1P2V1). The potential value of the mentor's consideration of the pioneers' emotional well-being was social relational and would allow the pioneer to stay motivated and develop professionally and personally.

h) Close knit group located together

Kiara recognised that it was important that the pioneers were located together in the office space and helped and supported each other. She could see the difference in one of the pioneers who moved to an office elsewhere (C1M1VA). Zinhle confirmed that when based together they got involved in in all of the different areas of work "you do the admin, you get to know the team" (C1M1P4VB). As mentioned, I observed that the pioneers were located close together and able to communicate in the NPO office space (C1M1Obs). The potential value of being a close knit group located together was social relational in that they could learn together.

i) Alternative communication for mentoring from a distance

When Zinhle moved office location elsewhere, Kiara was concerned in terms of their communication (C1M1VB). The uncertainty of knowing "whether she really is in the office doing her work or not" was overcome through trust built over time and discussions between Kiara and Zinhle before she moved. Kiara ensured that Zinhle was set up with communication and requested regular interaction whenever she was back at the NPO Head Office. The potential value of continued communication even from a distance was social relational for continued interaction and learning.

j) Performance appraisal

The process of doing a performance appraisal assisted Kiara in identifying any challenges that the pioneers were having and helped identify any further experience or needs (C1M1VA). The potential value of the process allowed for reflection and adaptation for workplace skills development.

4.2.2.3 The applied value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

The applied value of mentoring referred to Kiara and pioneers Musi, Nonhle, Philile and Zinhle adapting and applying mentoring activities in different contexts which led to changes or innovations. The applied value of activities lies in the ways workplace skills and practice have changed in the process of mentoring, or how mentoring activities may motivate a change in the way things are being done.

a) Providing the pioneers with increasing responsibility

Kiara acknowledged that the pioneers should be protected and able to make some mistakes and that the responsibility for certain mistakes should rest with the mentor, which could be challenging when it concerned "serious work" and so she was hesitant to provide certain serious work because of the risk, despite the fact that this work would be meaningful for the pioneers (C1M1VA). Kiara reflected that increasing accountability and responsibility was beneficial:

> Give them 6 months to work their way into the system and also maybe some accountability timeline… at some point we need to be able to say to them, you are now accountable if you stuff this up, you know you are responsible, which is part of the learning process, you need to have that, it can't just be a part of, well I'm an intern I didn't know… I think we all have to kind of grow through that, so that they get to the point where I can rely on them and if they do make mistakes it's something that we work through together but it's finding that time and the patience to do it and I think a lot of the mentors don't have that, I'm fine with it cause it's something I just do, but I know there are a lot of people who would rather just say 'ag they can just sit in the corner'.
>
> (C1M1VA)

The applied value of gradually increasing the pioneers' responsibility and opportunities to do "serious work" was that they can "claim a legitimate peripheral role that would allow them space to learn" (Fenton-O'Creevy et al., 2014). Zinhle was appreciative of the position as pioneer rather than permanent employee as she could focus on her learning (C1M1P4VB). Even if the pioneers do not yet have the required skills or localized knowledge of a different area of practice (Kiara's work) to meet expectations, they "occupy an ambiguous position in terms of degree of legitimate peripheral participation". Because they were able to speak openly with Kiara, they "assert their novice status as practitioners in different areas of practices" (Fenton-O'Creevy et al, 2014). Philile considered Kiara "approachable" and she said that she could go to her if she had a problem at any time (C1M1P2VB). Musi confirmed that he was able to make mistakes (C1M1P1VB). Kiara reflected that "building them up slowly" was important and that mentors need to learn how to do this (C1M1VA). Lave and Wenger (1991 p.96) described how true legitimate peripheral participation involves newcomers observing and understanding how "practice evolves through changing participation in the division of labour, changing relations to ongoing community practices, and changing social relations in the community". The pioneers required a full picture of the workplace. While they may start with "the initial 'circumferential' perspective absorbed in partial, peripheral, apparently trivial activities … it provides a first approximation to an armature of the structure of the community

of practice" and they can progress to "more serious work" as Kiara had suggested. Related to this activity and the concern that Kiara raised regarding the risk of pioneers making mistakes- it was important to move past this as she said because "whole-activity practice is viewed as more important in long-term mastery than is the consistent, correct execution of decomposed parts of the process" (Lave, 1990, p. 313). When the pioneers do make mistakes at least they are able to "gauge their own skill" and know that they have made a mistake without the need for praise and blame (Lave, 1990, p. 313).

b) Providing opportunities for pioneers to be able to work independently

Further evidence of the applied value of pioneers being able to engage in whole activity practice (Lave, 1990, p. 313) is that Kiara ensured that the pioneers were able to make their own plans and operate independently and responsibly. She described how one of the pioneers (Musi) needed to travel to the Eastern Cape to collect data and he was able to arrange his travel to coincide with one of the other pioneers, which he then checked with her. "I think it's good to encourage that, give them opportunities where they can (come up with a plan), and encourage them to think on their own" (C1M1VA). Musi confirmed that he had been able to come up with solutions himself and rectify any mistakes he had made (C1M1P1VB).

c) Trust in satisfactory work

Kiara was able eventually to trust that the pioneers would be able to do what they need to do. She said that when Zinhle moved to a different location and was required to essentially manage herself. While at first Kiara was worried, she realised that it would be possible and that she could trust Zinhle to do her work. Kiara reflected that despite being hesitant at first with all of the pioneers, she became "happy to give them stuff to do and trusts that they will do it well" (C1M1VA). The value of this mentoring activity was that the pioneers could "gauge their own skill" and realised their mistakes without Kiara's feedback and so essentially, they could "manage themselves" (Lave, 1990, p. 313). The pioneers had begun to "understand and tune their own enterprise: aligning their engagement with it, and learning to become and hold each other accountable to it" (Wenger, 1998, p. 95).

d) Providing diverse experiences

Kiara tried to ensure that one of the pioneers was able to be more involved in interacting in training and with the community, not only doing administration, in order to cater to her

strengths (C1M1V2). Nonhle verified that this happened: “Yes, we’ve been encouraged not just to stick with one thing and to know what’s happening in other departments. So to know what the greenpreneur is, because I don’t work with them at all so if there’s a chance to go out and visit them, sometimes I do go” (C1M1P2VB). Nonhle mentioned that although she did not necessarily work with every department, she had “an idea of what’s happening in which department” (C1M1P2VB). Kiara also encouraged Philile when she was bored with certain tasks, by providing some new experiences that she could look forward to. Kiara advised Philile on further learning to support her to be able to do more training work (C1M1P3VB). Philile indicated that she made herself available for different events, including exposure to the entrepreneurs (C1M1P3VA). Zinhle explained that making effort to know about the work that different staff were doing or their roles assisted with her exposure to diverse experiences: “I just need to know who all these people are, slowly but surely” (C1M1P4VB). Zinhle experiences included: “working with the community, working with internal staff, trying to understand the ethics of the corporate world, the business world” (C1M1P4VB). The applied value of these mentoring activities was again the pioneers’ exposure to the whole-activity practice (Lave, 1990, p. 313) through their own changing participation in workplace practice (Lave & Wenger, 1991, p.96). Wenger-Trayner and Wenger-Trayner (2015, p. 18) explained how the boundaries of the different communities of practice that the pioneers were exposed to (the community, the business world, the internal staff or even different departments of the NPO) are learning assets. The pioneers were exposed to a range of perspectives and practices. Wenger-Trayner and Wenger-Trayner (2015, p.19) highlighted that the pioneers may not be competent in all the practices in a landscape of the working world, but they “can still be knowledgeable about them, their relevance to their practice, and their own location in the broader landscape”. Wenger-Trayner and Wenger-Trayner (2015, p.19) described how “the journey within and across practices shapes who we are”. Wenger-Trayner and Wenger-Trayner (2015, p.20) referred to the concept of “knowledgeability”. The applied value of providing diverse experiences for the pioneers would be knowledgeability when they are able to use their experience of the practices and boundaries of the landscape in their work (a meaningful act of service). This applied mentoring activity could lead to a realised value of the pioneers being “recognised as reliable sources of information or legitimate providers of service” (Wenger-Trayner & Wenger-Trayner, 2015, p. 23).

e) Performance review for reflection on further experience needed

Through the performance appraisal process, Kiara was able to identify that Philile wanted to broaden her understanding of the work that she was doing – to know what the data that she was capturing was used for and to experience what Kiara does with the data and in her reporting.

> I didn't think about the fact that she can't come up with ideas for change or better ways for doing things because she doesn't know where it all goes to. So, after that we sat and I went through the whole process with her. I think she found it all a bit overwhelming but at least she can sort of see the bigger picture, so I need to do that more with her.
>
> (C1M1V2)

The applied value of the performance appraisal in this case was that Kiara was able to broaden Philile's participation in the workplace practice (Lave & Wenger, 1991, p. 96).

f) Making time to interact

Kiara ensured that she was available when the pioneers needed her, no matter how busy she was. Zinhle confirmed:

> What made her to be a good mentor – she interacts with us. She makes times for us, makes sure that we meet at least twice a month, even if she's got a lot to do, a lot of deadlines. I think with [Kiara] there is no date that is not a deadline for her but she'll still make time to meet with us, even when we forget when to meet with her. She'll come and remind us that we're meeting with her. She always makes time.
>
> (C1M1P4VB)

Kiara described that through these regular meetings she could understand the pioneers' movements, plan, discuss matters of concern and check any work that they had produced (C1M1VA). Kiara could also reflect on their personal development (C1M1VB). Wenger (1998, p. 56) described participation as both personal and social and as "a complex process that combines doing, talking, thinking, feeling and belonging. It involves our whole person, including our bodies, minds, emotions, and social relations". Nonhle confirmed that Kiara "makes time for individuals" – the one-on-one interactions outside of the regular team meetings: "if you need something, you can always pop in and she can address your concern or what you want to be" (C1M1P2VB). Zinhle said that Kiara gives the pioneers her full attention, truly understands and remembers what they share – "she knows each one of us, what we need and how we can get it sorted" (C1M1P4VB). The applied value of Kiara interacting regularly with the pioneers was that it offered them a sense of membership in a community and participation which is crucial for the negotiation of meaning (Wenger, 1998, p. 57). It also offered value in evolving the forms of mutual engagement within the team:

> Discovering how to engage, what helps and what hinders; developing mutual relationships; defining identities, establishing who is who, who is good at what, who knows what, who is easy or hard to get along with.
>
> (Wenger, 1998, p. 95)

In addition, the value of time for interaction and communication was that the pioneers could "learn to talk as a key to legitimate peripheral participation". They are able to talk about (e.g. stories from the community or of experiences) and talk within (e.g. progress of activities) (Lave & Wenger, 1991, p. 109).

g) Locating the pioneers together in the office space

Kiara said that she moved her pioneers to be grouped together (C1M1VB, C1M1O). This was important to the pioneers forming a team and helping each other. Zinhle did Excel training which she found useful and she was then able to assist the other pioneers and show them what she had learnt, as they did not attend this training (C1M1P4VB). Nonhle confirmed that this happened (C1M1P2VB). Philile also said that they helped each other and that she used her Excel skills to help Nonhle with the payroll (C1M1P3VB). Zinhle viewed this teamwork as important and that she improved in working with her team over time (C1M1P4VA). She missed this team of pioneers when she had to relocate*:* "I still miss this side, I still miss my colleagues, because here we have that one spirit, we work as a team (C1M1P4VB). The relationships between the pioneers can be stronger than, as Lave and Wenger (1991) described, a possibly hierarchical, more distant and respectful relationship (of the mentor-pioneer). Lave and Wenger (1991, p.93) stated that "apprentices learn mostly in relation with other apprentices" and "where the circulation of knowledge among peers is possible, its spreads exceedingly rapidly and effectively". The applied value of this working physically close together was the peer learning that took place and membership in a community. It was also that the pioneers were able to start to develop their own share repertoire as they worked together and renegotiated the meaning of using Excel, for example, or were telling and re-telling stories of their practice (Wenger, 1998, p. 95).

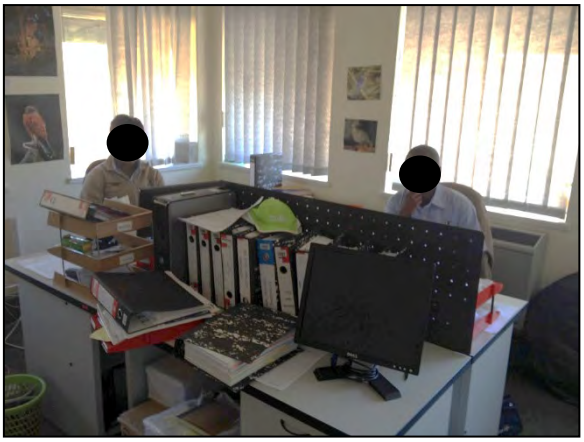


Figure 48: Pioneers working together in their office

h) Other mentors

Kiara said that one of her colleagues played an important role as a mentor to her pioneers for additional areas of expertise such as financial management (C1M1VB). The colleague took time to get to know the pioneers and would share any of their problems that she felt the mentor should know about unless they were confidential (C1M1VB). Zinhle confirmed the role that this colleague had played as a mentor (C1M1P4VB). The applied value of having other mentors in the community was the diversity of social relations and thus changing diverse participation in the workplace practice (Wenger, 1998). Fenton-O'Creevy et al. (2014) highlighted the importance of different workplace mentors in terms of support.

i) Pioneers' trust to confide in the mentor

Kiara maintained open communication with the pioneers and wanted them to be able to come to her with problems, even pioneers that were not 'hers'. She recognised the importance of understanding "some of their hardships" (C1M1VB). She used the performance appraisal to allow the pioneers to open up about any problems they might have had and took time to work through the appraisal, not rushed and only as a formality (C1M1VB).

> I try to just, my doors are open all the time. If they have something they need to talk about, they must come and talk to me. I don't want them to feel nervous to come and talk about anything and I think that that helps because they sort of trust me as well, they know that they can come to me if there's a really big problem. And if they also, I guess if they have problems with me, I want them to be able to tell me.
>
> (C1M1VB)

Philile felt supported and able to communicate. "Having such a mentor made me hold on no matter the situation" (C1M1P3V1). Zinhle shared how her mentor had helped, guided and

supported her in her personal challenges that might have affected her work (such as pregnancy, emotional stress, needing to relocate) (C1M1P4V2). Kiara explained that she was quite soft in comparison to a stricter mentor who she felt the pioneers feared. She said that she would still correct the pioneers when they pushed the boundaries, for example, if they came to work late.

> Sometimes they don't thrive when they are scared. They thrive when they feel confident and when they feel like they are doing a good job. Yes, reprimand them, tell them when they are doing a really bad job – but give them their due and help them along the way. (C1M1VB)

Musi confirmed that Kiara was more lenient with a "democratic kind of mentorship" and she was "not a dictator" (C1M1P1VB). Wenger (1998, p. 56) described participation as both personal and social and as "a complex process that combines doing, talking, thinking, feeling and belonging. It involves our whole person, including our bodies, minds, emotions, and social relations". The applied value of the trust that Kiara established with the pioneers in order for them to confide in her and seek her guidance and assistance when needed, was that they could participate wholly as Kiara made space for more than "mere engagement in practice" (Wenger, 1998, p. 56). Again, the value of the pioneers learning to talk as a key to legitimate peripheral participation was evident (Lave & Wenger, 1991, p. 109).

4.2.2.4 The realised value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Phililе and Zinhle

The realised value of the mentoring activities related to what was ultimately achieved in the process.

a) Mentor was empowered

There was realised value in Kiara feeling empowered through the experience of mentoring the pioneers:

> They have just as much insight into life, they have just as much capacity to learn and to grow and to do the tasks that they've been given to do, they just don't have the experience and as mentors we are in the position where we can guide them through that experience. So it's quite empowering. It's like being a teacher, to me being a teacher is the most important job in the world, because you are creating people's lives, by doing that you are moulding the future. (C1M1VA)

b) Mentor felt fulfilled and that she was contributing to the sector

Kiara described how she made the choice to ensure that the placements development and "their contribution as a whole is much bigger" rather than leaving them to "do meaningless tasks". Kiara was of the opinion that the pioneers can take what they learn to the sector and their experience would shape their contribution: "It's up to me to influence their decision at the end of the day, are they going to a stay in the environmental sector for one, or are they going to rush back to the corporate, or are they going to try stay within [NPO]" (C1M1VA). Although all five of her pioneers were from supply chain management or finance backgrounds they had exposure to opportunities in the environmental sector. She explained that there is "huge scope for the environmental sector and the sector needs those people" (C1M1VA). She also felt a sense of fulfillment when mentoring:

> I enjoy seeing people go from not knowing what to do and gaining the confidence to go from you, you know learn from you, and then spread their wings and become their own people and excel at what they do. And that, so for me, I suppose I get a personal kick out of it, just seeing them grow.
>
> (C1M1VB)

The realised value for Kiara was that she was contributing to the sector and felt a personal sense of fulfillment.

c) Mentoring had productivity and values benefits for the organisation

The mentor said that with the pioneers taking on increased responsibilities, she was able to do more work. She also mentioned that she had a role to play in the pioneers' experience and their own opinion of the organisation. This could have repercussions for the organisation, good or bad in the future (C1M1VA). The mentor considered the pioneers to be helpful in getting tasks done and they were making other employees' work easier and were "indispensable". She felt that projects had grown and expanded because of improvements in administration through the pioneers' work (C1M1VB). The realised value of this increase in productivity of the organisation was evident. The mentor viewed mentoring as part of her work and as a mutually beneficial exercise: "I wouldn't be able to do my job the way that I do it without them, to me they are a very important part of what I do" (C1M1VA). The mentor was of the opinion that mentoring should be part of the organisation and that the pioneers should learn that "you've got to grow with the people around you" (C1M1VB). The realised value of the contribution of mentoring to the values of the organisation was also evident.

d) Pioneers became permanent employees

Three of Kiara's pioneers were absorbed into permanent positions at the time of her second interview (C1M1VB). Zinhle and Musi confirmed that they had been employed (C1M1P1VA, C1M1P4VB). The realised value for the organisation was that the pioneers' workplace skills set was developed for working at the NPO before they were employed (C1M1VB). Kiara described the pioneers as becoming "indispensable" and they were "starting to play pivotal roles in terms of work" (C1M1VA). As the pioneers were employed, they also moved into a different office space, the mentor referred to this as "when [Musi] moved up to permanent staff, we wanted to move him out of there just to give him a bit of a bump up as well" (C1M1VB, C1M1O).

e) Pioneers able to work independently and take initiative

The realised value of Kiara and Zinhle having to establish their remote communication when she moved to a different area was that Zinhle was able to work independently and initiate regular communication. Kiara explained that "she's very aware that she actually needs" and "she's better at it [communication], actually, then I am. She phones, or I try to phone her, I pick up the phone and phone her when there's a problem, we phone each other – that's sort of the standard because it's much healthier than emailing" (C1M1VB). Kiara also found that all of the pioneers had started to take on increasing responsibility: "The more that they've grown, the more responsibility they've just taken on – it hasn't even been a handover, it's been … they just step up" (C1M1VB).

f) Pioneers' confidence to learn from mistakes

Kiara described how one of the pioneers was more confident and willing to take on new experiences (C1M1VB). Musi mentioned that through the support of Kiara he gained confidence over time. He was not very confident after tertiary education and in the work environment. He confidently acknowledged that: "yes I do make mistakes, but I rectify them, come up with solutions, good or bad, but we try to work around them" (C1M1P1VB). Phindile also indicated that she felt more confident (C1M1P3VA). The realised value of the pioneers being confident was that they would not be afraid to fail and be able to learn from their mistakes with the mentor.

4.2.2.5 Overall activities indicating the value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

A summary of mentoring activities for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle according to each value creation cycle is represented in Table 9 below.

Table 10: Overall mentoring activities indicating the value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

Immediate value (IV)	**Potential value (PV)**	**Applied value (AV)**	**Realised value (RV)**
1. Regular team meetings for direct communication 2. Easily available internal mentoring workshops for mentoring information 3. Pioneers worked together as 'a team' and helped each other 4. A caring mentor	1. A mentor who is learning and fulfilled 2. Internal mentor workshops for sharing challenges and learning 3. Alignment of pioneer work tasks with mentor's key performance areas 4. Providing focus for the pioneers 5. Exposing the pioneers to diverse experiences 6. Mentor recognised pioneer strengths and potential experiences needed for growth 7. Consideration of pioneers' emotional well-being 8. Close-knit group located together 9. Alternative communication for mentoring from a distance 10. Performance appraisal	1. Providing the pioneers with increasing responsibility 2. Providing opportunities for pioneers to be able to work independently 3. Trust in satisfactory work 4. Providing diverse experiences 5. Performance review for reflection on further experience needed 6. Making time to interact 7. Locating the pioneers together in the office space 8. Other mentors 9. Pioneers trust to confide in mentor	1. Mentor was empowered 2. Mentor felt fulfilled and that she was contributing to the sector 3. Mentoring had productivity and values benefits for the organisation 4. Pioneers become permanent employees 5. Pioneers work independently and take initiative 6. Pioneers' confidence to learn from mistakes

Table 10 of mentoring activities for each value creation cycle, was further developed to present the essential findings emerging from the data in Figure 49 of immediate, potential, applied and realised value of the mentoring activities. Certain factors which emerged as possibly having enabling value were noted in Figure 49, to be further expanded in Chapter 5.

4.2.2.6 Indicators of the value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

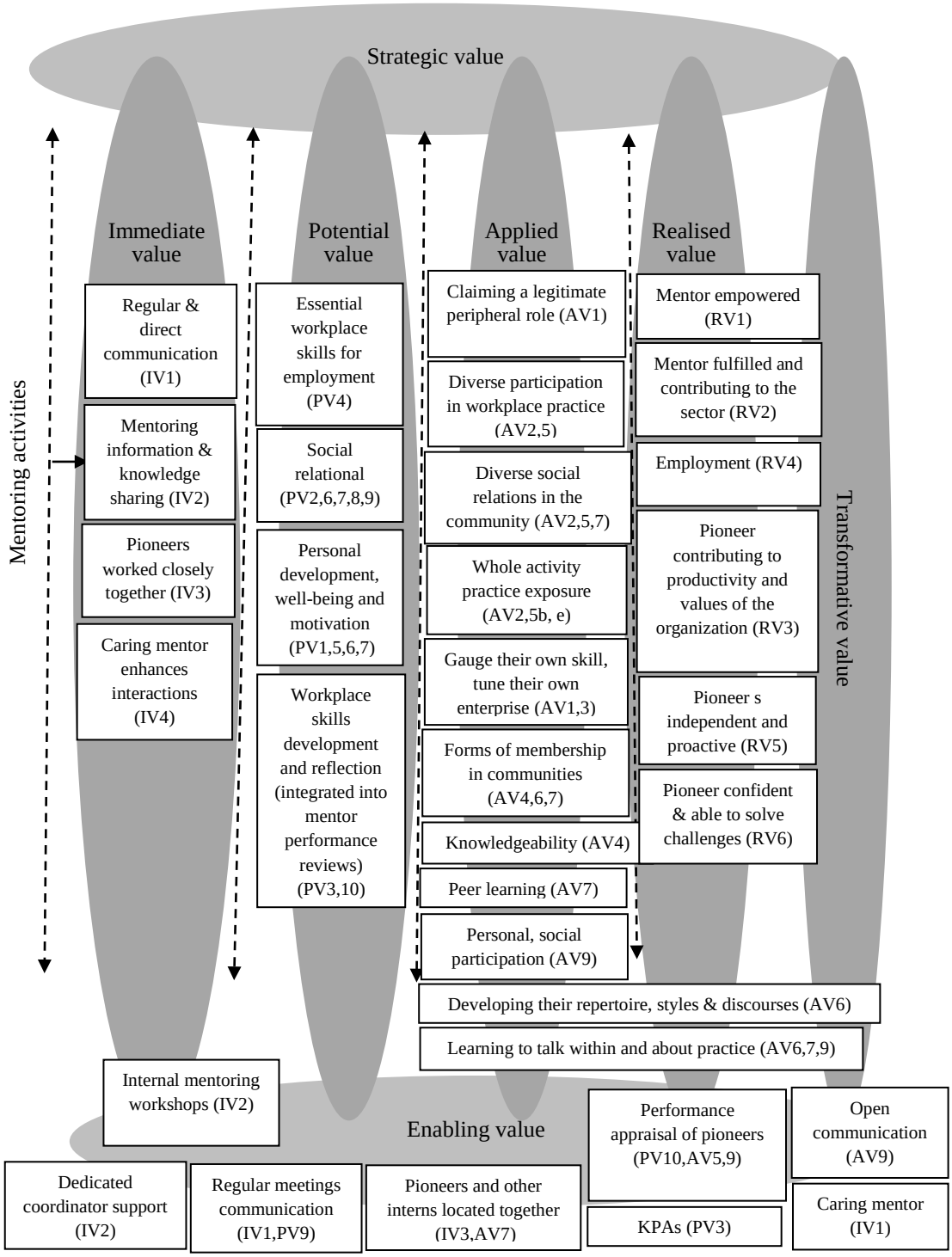


Figure 49: Overview of indicators of the value of mentoring for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle using the value creation framework of Wenger-Trayner and Wenger-Trayner (2014)

A mentoring value creation trajectory for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle is presented in Figure 50.

4.2.2.7 Mentoring value creation trajectory for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

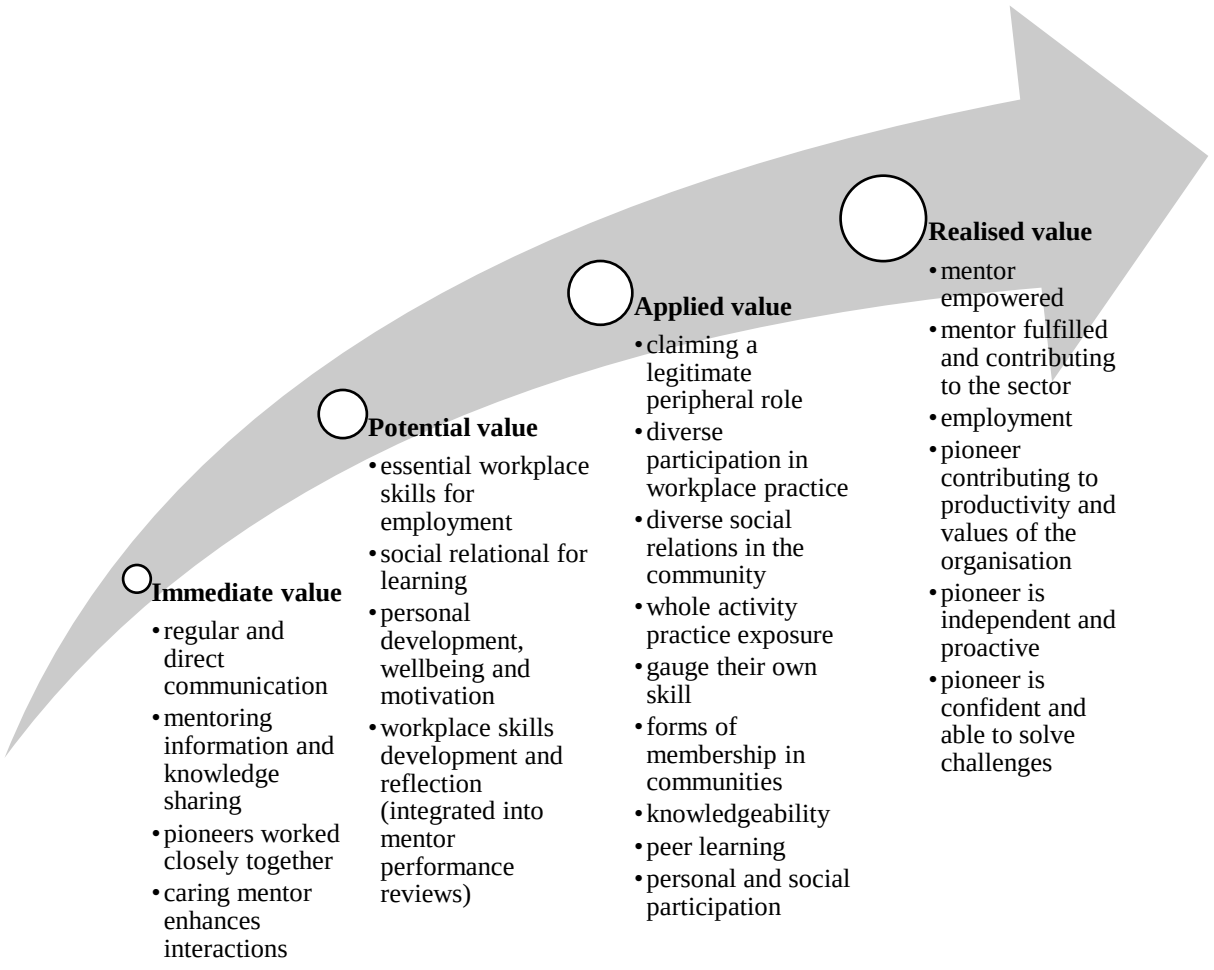


Figure 50: A mentoring value creation trajectory for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle

The useful representation of the mentoring value creation trajectory for mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle in Figure 50 was used as part of the feedback of the findings of the research to the NPO as strategic value in Chapter 6. Next, I turn to the value of mentoring for mentor Malusi and his pioneers Nomsa and Penny.

4.2.3 The value of mentoring for mentor Malusi and pioneers Nomsa and Penny

4.2.3.1 The immediate value of mentoring for mentor Malusi and pioneers Penny and Nomsa

a) Pioneer involved in many areas

Penny described the work that she had been doing since she had started in December 2014: leadership training, working with ambassadors (school pupils) and organising events (C1M2P2VB). The value of her involvement in many areas was the exposure to different work.

b) Working with another pioneer

Penny explained that she had been doing data capturing and had been working with another pioneer in the data capturing department and organising files (C1M2P2VB). The value of working with another pioneer was the support as she was Malusi's only pioneer and somewhat isolated from the others as she started work later than them in December 2014 (C1M2P2VB). Malusi said that Penny "didn't quite get an opportunity to click with others, not to even mention with other organisations" (C1M2VB).

c) Independent work and travel

The training that Penny was running required a substantial amount of travelling which she did alone (C1M2P2VB).

4.2.3.2 The potential value of mentoring for mentor Malusi and pioneers Penny and Nomsa

a) Internal mentoring workshops

Malusi said that the workshops that were arranged by the coordinator offered information on mentoring and how Groen Sebenza would work (C1M2VA). The potential value of these workshops was Malusi's personal development as a mentor.

b) Pioneer had to lead on work tasks as soon as she started

Malusi explained that they had intense deadlines to meet with work tasks when Penny started at the NPO and so she had to begin facilitating leadership training as soon as she started and she was able to rise to the challenge (C1M2VB). The potential value of her working independently from her start was that she was exposed to essential workplace skills.

c) Mentoring less structured with new pioneer

Malusi said that the mentoring with Penny was less structured than it was with Nomsa (C1M2VB). Malusi had to ensure that he structured the mentoring interaction with Nomsa as she was considered challenging: “She (Nomsa) had quite a challenge in terms of dealing with people” (C1M2VA). The value of Malusi adapting his mentoring approach to be less structured was social relational and worked for the different personalities or challenges of the pioneers.

d) Meetings when office-based to catch up and plan

Penny said that she met with her mentor whenever they were both in the office to discuss work and plan, as well as catch up (C1M2P2VB). The value of these meetings was in ensuring time for workplace skills development and reflection despite the busy travel schedules of both the mentor and pioneer.

e) Pioneer adjusting to meeting deadlines

Nomsa said that she was “challenged to meet deadlines” and this left her feeling under pressure. She acknowledged that she felt that she was adjusting (C1M2P1VA). Despite her discomfort, the value of the mentor requiring that the pioneer had to meet deadlines was that she was able to start to learn an essential workplace skill for employment.

4.2.3.3 The applied value of mentoring for mentor Malusi and pioneers Penny and Nomsa

a) Mentor used online information on mentoring and personality profiles to reflect and improve his mentoring and understand his pioneer

Malusi said that he had accessed online information on how to make himself a better mentor and how to understand his pioneer. He had completed a personality profile with his pioneer “to understand her and how she approaches things, how to make decisions, so that we can have a better understanding and a better working relationship”. He found this exercise very useful and shared his profile with her (C1M2VA). This activity had applied value in that it was able to strengthen the social relations between them and the personal and social participation (Wenger, 1998). It assisted the mentor and pioneer in their mutual engagement by defining their identities (Wenger, 1998, p. 95).

b) Mentor had one-on-one sessions with pioneer to address challenges

Malusi described his approach to mentoring as seeing how pioneers performed a task and then reflected, with them, on where there could be improvements (C1M2VA). Malusi had "counselling sessions" with Nomsa to try to address challenges that they had experienced and her difficulties in dealing with people.

> I did talk to her one on one. My style of dealing with that is basically just asking questions and that will hopefully generate a different perspective, ask her things that will allow her to see the other point of view and to actually do a reflection of on how she could have handled the situation better. And if it happens next time, how to best deal with it.
>
> (C1M2VA)

Wenger (1998, p. 53) explained that in order to negotiate meaning there must be engagement with "a multiplicity of perspectives" as well as "the production of a new resolution to the convergence of these perspectives". The value of this activity was that Malusi attempted to reach a convergence of perspectives to overcome challenges that the pioneer was facing. The activity would also have assisted Nomsa in discovering how to engage (Wenger, 1998). Nomsa stated that she had learned interpersonal communication skills which had helped her build a good and strong relationship with her colleagues (C1M2P1VA). It was important that the pioneers learnt to talk about and within their practice (Lave and Wenger, 1991 p. 109).

c) Mentor striving to set an example for pioneers with procedures

Malusi explained that at times he did not always "stick to doing things by the book" as he never really needed to. "Now you have to set the example. Now I have to really make sure things are done according to the procedure" when using company property going through the request and approval process correctly (C1M2VA). The value of Malusi striving to set an example for the pioneers with the organisation's procedure, was that he wanted to illustrate the enterprise correctly so that he and the pioneers could understand and "become and hold each other accountable for it" (Wenger, 1998, p. 95).

d) Mentor provided the pioneer with background to the work

> When (Penny) arrived really the only mentoring that I needed to do with her was actually to teach her about the work, what we do, how we do it. And the whole project, and how we fit into the scale and all that. As soon as she grasped that, we went out for a few trainings. We showed her how to study the content and all the rest of it, and by January she could do it by herself.
>
> (C1M2VB)

Malusi felt confident that Penny could run with the training herself and "she would bring back feedback and any concerns and we would deal with it right then and there, whether on phone or in the office, but we were hardly in the office at the same time" (C1M2VB). This experience was different for him with Nomsa, where he felt he could not take a chance – he knew she could not handle it as she was not good with adults (but she was good with children). Penny did say that "It was really hectic because we had to meet a lot of targets so it was basically a week of seeing how he does the trainings and then the following week I had to do it on my own. So that was hectic, I had to learn very fast" (C1M2P2VB). Penny said that it took time before they could meet and discuss expectations (C1M2P2VB). The value of this experience and mentoring activity was that there was first a period of observation so that Penny had a "way in" (Lave, 1990, p. 313). She had a clear understanding of the expectations and "clear knowledge of curriculum, organized basic outlines of the practice but no specification" (Lave, 1990, p. 324).

e) Mentor encouraged the pioneers to engage and share with him

Malusi explained that he said to the pioneers that if they had anything to discuss or had areas of improvement that they wanted to work on, they could talk to him. This helped him to identify where he could proceed with them and provided a foundation of focus. He felt that he needed to see the pioneers come forward and want to interact and learn from him. Penny confirmed that Malusi had clearly explained what was expected of her and that if she had a problem, or if she had suggestions she could share and talk with him (C1M2P2VB). It was not certain whether Nomsa had been able to engage and share (C1M2VB). The applied value of this mentoring activity was that it encouraged the pioneers to participate wholly and ensured that they had opportunity for more than just "mere engagement in practice". It encouraged personal and social participation (Wenger, 1998, p. 56) and learning to talk about and within practice (Lave & Wenger, 1991, p. 109).

4.2.3.4 The realised value of mentoring for mentor Malusi and pioneers Penny and Nomsa

a) Pioneer able to travel extensively and run training independently

Penny said that she had travelled long distances alone but felt that she was surprised at how well she handled it and that the training went well (C1M2P2VB). Malusi shared the following confirmation:

> After that she just took her role and just ran with it. Pretty much that's it. That's probably when the formal mentoring went out the window because I really didn't need to work that much with her because she's got everything set out. If she has a challenge, she talks to me about it.
>
> (C1M2VB)

Essentially the value of Penny being independent and contributing to the productivity of the NPO was realised.

b) Pioneer offered a position in the organisation

Malusi said that the organisation would like to employ Penny permanently:

> We've got a position for her because we need a person functioning in that role anyway. The concern has been whether she will accept the offer or not, because it's not as good as it should be. But we'll try and see if she's going to stay or not. She's a person who is very capable of functioning in a very, very high level. And one of my concerns is that maybe she's not getting enough stimulation that she actually needs from what we do.
>
> (C1M2VB)

Penny did confirm that she was looking for permanent employment and wanted to do her Master's degree (she was developing a proposal) (C1M2P2VB). The value of Penny finding permanent employment in the NPO as well as advancing in her further learning was realised.

c) Mentor satisfied with the experience

Malusi shared his satisfaction with the experience of mentoring:

> An opportunity to try and work with somebody who really is new to the work environment, if I can put it that way. And seeing the impact that you have on them and how they deal with things and how they take how you walk the talk and they apply it in their lives. A good thing to observe, although I didn't feel like I won with (Nomsa). But what I'm glad about is that she knows what she's supposed to do, but she doesn't do it and that's as far as I can actually go.
>
> (C1M2VB)

The mentor feeling fulfilled in the experience of mentoring was realised.

4.2.3.5 Overall activities indicating the value of mentoring for mentor Malusi and pioneers Penny and Nomsa

A summary of mentoring activities for mentor Malusi and pioneers Penny and Nomsa, according to each value creation cycle is represented in Table 10 below.

Table 11: Overall mentoring activities indicating the value of mentoring for mentor Malusi and pioneers Penny and Nomsa

Immediate value (IV)	Potential value (PV)	Applied value (AV)	Realised value (RV)
1. Pioneer involved in many tasks 2. Working with another pioneer doing data capturing 3. Independent work and travel	1. Internal mentoring workshops 2. Pioneer had to lead on work tasks as soon as she started 3. Mentoring less structured with new pioneer 4. Meetings when office-based to catch up and plan 5. Pioneer adjusting to meeting deadlines	1. Mentor used online information on mentoring and personality profiles to improve his mentoring and understand his pioneer 2. Mentor had one-on-one sessions with pioneer to address challenges 3. Mentor striving to set an example for pioneers with procedures 4. Mentor provided the pioneer with background to the work 5. Mentor encouraged the pioneers to engage and share with him	1. Pioneer able to travel extensively and run training independently 2. Pioneer offered a position in the organisation 3. Mentor satisfied with the experience

Table 11 (mentoring activities for each value creation cycle) was further developed to present the essential findings emerging from the data in Figure 51 of immediate, potential, applied and realised value of the mentoring activities. Certain factors which emerged as possibly having enabling value were noted in Figure 51, to be further expanded in Chapter 5.

4.2.3.6 Indicators of the value of mentoring for mentor Malusi and pioneers Penny and Nomsa

A mentoring value creation trajectory for mentor Malusi and pioneers Penny and Nomsa is presented in Figure 52.

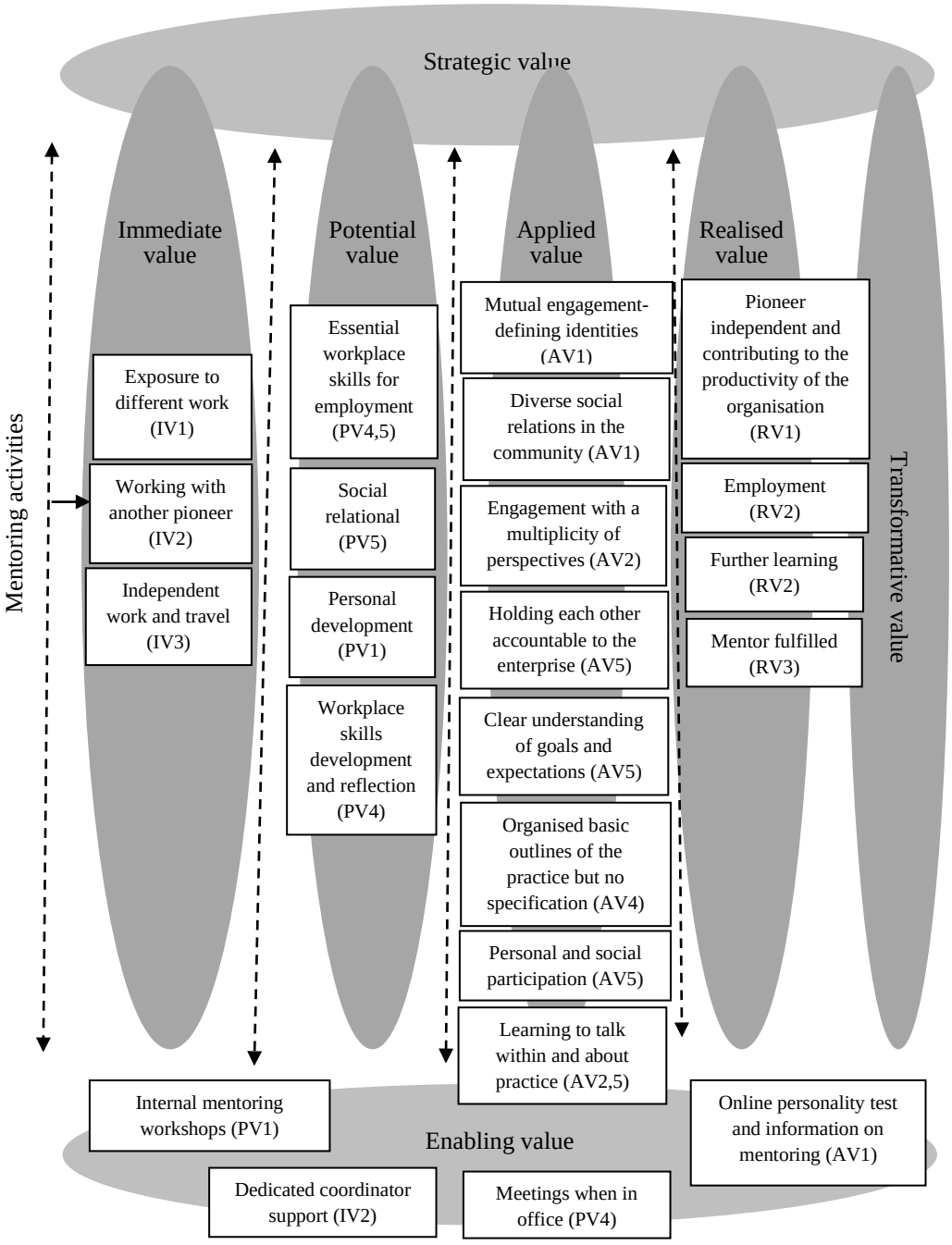


Figure 51: Overview of indicators of the value of mentoring for mentor Malusi and pioneers Penny and Nomsa using the value creation framework of Wenger-Trayner and Wenger-Trayner (2014)

4.2.3.7 Mentoring value creation trajectory for mentor Malusi and pioneers Penny and Nomsa

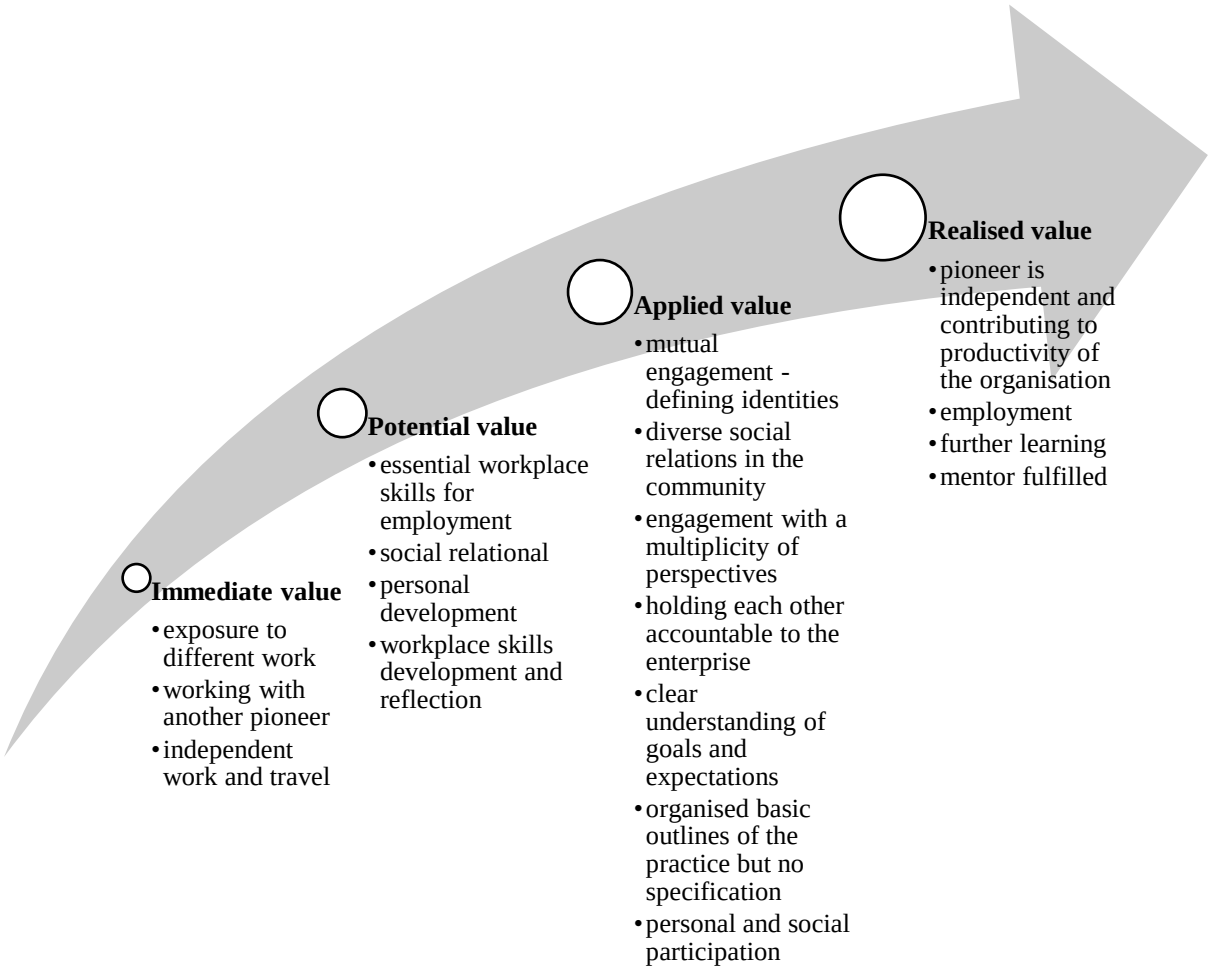


Figure 52: A mentoring value creation trajectory for mentor Malusi and pioneers Penny and Nomsa

The useful representation of the mentoring value creation trajectory for mentor Malusi and pioneers Penny and Nomsa in Figure 52 was used as part of the feedback of the findings of the research to the NPO as strategic value in Chapter 6. Next, I turn to the value of mentoring for mentor Patrick and his pioneers Sanele and Simo.

4.2.4 The value of mentoring for mentor Patrick and pioneers Sanele and Simo

4.2.4.1 The immediate value of mentoring for mentor Patrick and pioneers Sanele and Simo

a) The pioneers did many aspects of research work

Sanele said that they were doing research which included mostly desktop work, but sometimes interacting with communities and fieldwork (C1M3P2VB). Simo confirmed this work in more detail as including vegetation assessments, game capture, permaculture gardening and other activities (C1M3P1Q). The value of the pioneers doing this research work was exposure to different aspects of the work.

b) Most suitable pioneers selected

Patrick explained that they were able to select the best suited pioneers for the position which included their willingness to do fieldwork which had immediate value (C1M3VA).

c) Internal mentoring workshops useful

Patrick felt that the internal mentoring workshop run by the coordinator was good. It provided feedback on Groen Sebenza, resources and information, as well as allowed him to hear how the other mentors were mentoring (C1M3VA).

4.2.4.2 The potential value of mentoring for mentor Patrick and pioneers Sanele and Simo

a) Workload and deadlines intense

Patrick felt that his pioneers were surprised with the amount of work that they received and that they would become familiar and feel competent eventually: “once they feel competent and say that they are competent to do it, then the margin for acceptable error shrinks” (C1M3VA). Early on Simo stated that he was “working under strenuous environmental conditions” and “having a lot of work at the same time, having to meet deadlines” (C1M3P1Q). The potential value of the workload and deadlines would be realised with growing familiarity and competence as an essential workplace skill.

b) Mentor’s expectations changed through early written and oral feedback sessions

Patrick asked the pioneers to provide written reports and give oral feedback sessions to get an idea of their verbal and writing skills. His initial expectation of what work the pioneers could do then changed (C1M3VA). Sanele did say that Patrick was not happy with the way that he

writes and with his time keeping (C1M3P2VB). The potential value of these written and oral feedback sessions was that it gave the mentor a clear idea of workplace skills development needs of the pioneers.

c) Mentor recognised his expectations were high

Patrick explained his background in the Nature Conservation field meant that in the past he was expected to work for minimal pay, long hours and struggle for the greater good and thus his expectations of the pioneers were probably unrealistic.

> Nevertheless, when we don't have those sort of Tibetan-type monks working for us, we feel marginally disappointed. And nowadays that's not the case. And then the second thing is, I think young people today, especially when they come out with a degree, they have an air of entitlement that they have arrived, and the idea that life continues on and that it's a struggle and hard work, and where, in nature conservation, we're struggling towards something, and generally losing on all fronts. So those three things would be the expectation they arrive with stuff, we expect too much of them and the third thing would be is that they don't think that they need to work that hard, creates a kind of schism between what their expectations are and what our expectations are.
>
> (C1M3VB)

Simo stated that he was "working under strenuous environmental conditions" (C1M3P1Q). The potential value of this realisation was that he could manage his expectations to be more in line and shared with the expectations of the pioneer in future.

d) Pioneer could lead a project

Patrick said that Sanele was doing research on ecosystem services and drafting a questionnaire for an ecosystem services survey in one of the project areas that he could lead himself "if he's up to it" (C1M3VB). Sanele verified that he was doing research work and assisting the research section of the local conservation authority (C1M3P2VB). The potential value of this mentoring activity was that the pioneer had developed his workplace skills.

e) Pioneer wanted the opportunity to work in his field of study

Sanele said that he had left his employment in another field to pursue this opportunity to grow in the natural sciences – his field of study. Although he did say that he felt that he was not doing the actual work yet, he was doing research into aspects of this work (C1M3P2VB). The potential value was that as a peripheral participant, he could further refine his workplace skills in alignment with his personal motivation.

4.2.4.3 The applied value of mentoring for mentor Patrick and pioneers Sanele and Simo

a) New work required a level of experience to deal with stakeholders sensitively

Although Sanele was interacting with communities (C1M3P2VB) and Simo stated that he "works very closely with rural Zululand communities" (C1M3P1Q), Patrick explained that there was a permanent position available but that the pioneers were not suitably qualified (required a Master's) or experienced to handle interactions with traditional authorities. He felt that both pioneers had the potential as they were able to stand up for themselves, however he felt that Sanele still needed to control his emotions: "with the traditional leaders, you cannot get angry" (C1M3VB). The value of this mentoring experience was that it gave the pioneers a view of the whole enterprise as peripheral participants. It outlined for both the mentor and pioneers, their further workplace skills development and further "increasingly knowledgably skilled participation" required (Lave & Wenger, 1991, p. 95).

b) Pioneer found resolution of problems difficult

Sanele expressed that as a pioneer he needed to be "careful about the relationship you are having" with a mentor. He referred to the fact that even when something that made him unhappy was discussed, it was not necessarily resolved. Whereas as a permanent employee in a workplace there is a process of dealing with a situation with Human Resources or unions.

> But with interns, if you are not happy, you stay like that – not being happy. It affects you – and even if you can go to the coordinators of the internship, still you….you cannot go behind your mentor and tell on them and come back and expect to have a harmonious relationship. Some of the things he's not bound contractually so if you complain, you don't know what to expect.
>
> (C1M3P2VB)

Patrick felt that both pioneers had the ability to stand up for themselves and speak up. He mentioned that both had done so when they thought that he was being unfair to them (C1M3VB). While there was an issue mentioned here that will be discussed in Chapter 5, the potential value of this experience was that it shows how the pioneer understood the enterprise and was learning to hold his mentor accountable to it. He was also "struggling to define the enterprise and reconciling conflicting interpretations of what the enterprise is about" (Wenger, 1998, p. 95).

c) Mentor exposed pioneer to different ideas and schools of thought

Patrick said that he shared reading material with the pioneers: "I'm getting him to read some stuff on the fringes of environmental thought". He reported that Sanele's feedback on one of the books was: "it's a hard book, it's blowing his mind and he needs a copy". Patrick hoped to stimulate Sanele's ability to critically analyse material and ideas (C1M3VB):

> But it's a kind of introduction to thinking which is considered, certainly in the US, more on the radical end of environmental thought. And it's not that I want him to follow Daniel Quinn, but I want to know what he thinks of it, to critically analyse it, particularly from a South African perspective because the book is written from a Northern Hemisphere perspective and its application in terms of South America, India, Africa is very different. And I guess I want to see how he picks that up, and if he's able to do that, and he wants to work 15-hour days, then he'll stay.

The applied value of this mentoring activity was that it was developing essential workplace skills of critical thinking required for permanent employment in the NPO through increasingly intense and skilled participation. Increasing the skill of the pioneers was of direct value to the mentor (Lave & Wenger, 1991, p. 95; Lave, 1990, p. 314).

d) Pioneer understood work requirements

Sanele explained that he understood many of the work requirements that Patrick had highlighted as important including (C1M3P2VA):

- Different approaches to doing things
- How to interact with stakeholders in the field
- The importance of meeting deadlines and making commitments
- Time management
- Undertaking tasks with limited resources and budgets
- Information management and sensitivity

The applied value of the mentoring experience was a clear understanding of the expectations and "clear knowledge of curriculum, organized basic outlines of the practice but no specification" (Lave, 1990, p. 324).

e) Pioneer received varied work experience

Simo said that he was able to gain mentoring and exposure to the local conservation authorities research team in various projects in the Zululand region (C1M3P1VA). Sanele said that he was participating in the Pongola Catchment Management Forum. He gave a presentation at a

conference which he felt helped him to "build confidence to participate in the science community". He played a role in engaging with stakeholders as the "social ecologist in our unit". Sanele had done reporting and administration and assisted with research (C1M3P2VA). Sanele felt that he gained exposure and was able to "orientate myself in the field of environment". He described his hope in becoming part of "this young and upcoming unit" and that they were doing ground-breaking things and could make a difference with communities (C1M3P2VA). Sanele shared that he had been interacting with communities in developing food gardens (C1M3P2VB). Patrick explained that he had sent the pioneers to gain work experience that was not necessarily beneficial to him, but that would provide a "slightly more holistic experience for them" (C1M3VA). The applied value of this varied work experience was the pioneers' exposure to the whole-activity practice (Lave, 1990, p. 313); changing participation in workplace practice (Lave & Wenger, 1991, p. 96) and knowledgeability (Wenger-Trayner & Wenger-Trayner (2015, p. 23). Patrick felt that the pioneers were "productive" and "functional" in the research work that they had been doing (C1M3VA). Sanele referred to his fieldwork as an opportunity for learning:

> I found that it was a lot and important to be part METT (Management Effective Tracking Tools) analyses for iThala Game Reserve, which was successful. During the METT Analyses, I got to understand all aspects that need to be in good order for a typical protected area to function. This has equipped me well as a young scientist.
>
> (C1M3P2VA)

f) Mentor adjusted his expectations of the pioneers and his effort

Patrick described how he put pressure on the pioneers with deadlines: "It is exhausting, but they did respond to it, and they both good guys in that regard – they want to work. They did respond with varying degrees of efficacy, but it did require a lot of effort from my side" (C1M3VB). The value of Patrick continuously imposing deadlines on the pioneers was that they were exposed to this essential but challenging workplace practice and proved that they became increasingly skilled in their participation (Wenger, 1998).

g) Mentor expected pioneers to accomplish simple tasks and understand concepts before progressing to more important tasks

Patrick explained that Sanele had shown disappointment in the fact that he was not able to do certain work with his mentor. Patrick had explained to Sanele: "there's a sequence to you getting involved in more exciting stuff and that is that you accomplish the simple stuff

efficiently". By this he meant being punctual, meeting deadlines. Sanele felt that: "Yes, but that's all trivial stuff and I want to do important stuff". To which Patrick said that he responded: "You're not going to get to the important stuff until I know I can trust you with the trivial stuff. But I can't unleash you in a community meeting with an enormous amount of trust if I can't trust you to do simple stuff". Patrick felt that since that conversation Sanele had made effort to meet deadlines timeously, motivating Patrick to want to enable Sanele to take on increasing responsibility (C1M3VB). Sanele explained that Patrick was trying to get him to:

> Be able to do some of the things. It's more research-based and I have to learn some of the things, some concepts are new to me. He will ask me to do some research and then he will give me feedback and then we take it from there. Most of the time the stuff that I have to do I have to learn about it, understand it, and then do it.
>
> (C1M3P2VB)

Sanele explained that he understood expectations more over time and got to know the environment. He said that they needed approval to move on to the next stage. Patrick would provide feedback and additional reading references on writing and research work that Sanele was doing (C1M3P2VB). The applied value of this mentoring activity was that the pioneers, as newcomers and legitimate peripheral participants, were starting with "the initial 'circumferential' perspective absorbed in partial, peripheral, apparently trivial activities…it provides a first approximation to an armature of the structure of the community of practice" and they then progress. The pioneers were observing and understanding how "practice evolves through changing participation in the division of labor, changing relations to ongoing community practices, and changing social relations in the community" (Lave & Wenger, 1991, p. 96).

h) Mentor encouraged pioneers to pursue qualifications

Patrick said that in their first year he encouraged the pioneers to pursue further qualifications. Simo received a Bachelor's degree. Sanele was more indecisive. The pioneers' studies were paid for by SANBI (C1M3VB). Sanele said that through the assistance of his mentor and the Groen Sebenza administrators, he registered for his Honours degree in Environmental Management. He felt that by achieving this qualification, the work that he was doing would "have more weight and I would stand a chance to be a significant team player" (C1M3P2VA). The applied value of this mentoring activity was that it contributed to the pioneers' increasingly skilled and knowledgeable participation in the community's practice (Wenger, 1998).

i) Mentor guided and assisted the pioneer in his conference presentation

Patrick shared the progress of the pioneers in preparing for presentations at a conservation conference in 2015. During the conference the previous year the pioneers were able to attend various presentations – "they entered into that conference with the idea that this year you're looking, next year you're going to present" (C1M3VA). Simo was not able to present as he had exams at the same time, so he prepared a poster. Patrick provided options for the pioneers to choose to present. The pioneers had to interact with other organisations working in the field of their topics. Sanele's topic was "the role that circular economics could play in creating sustainable communities around protected areas" and Simo's was "ecological conservation agriculture". Patrick expected the pioneers to engage with organisations regarding their topics, however "that was one of those examples where I think my expectation was a bit high in so far as they were really overwhelmed by the work, the amount of work involved. In a sense I was quite disappointed in that". Patrick felt that Simo left his preparations to the last minute and his poster was not satisfactory and that he needed substantial help. Patrick explained that Sanele struggled with his abstract and presentation. Sanele felt that the presentation at the conference helped him to "build confidence to participate in the science community" (C1M3P2VA). The conference programme confirmed their attendance and presentation/poster (2014 Symposium of Contemporary Conservation Practice Programme). The applied value of this mentoring activity was the direct engagement in practice to learn a specific practice of the community. The steady two-way process of development of the pioneers' skill in producing and performing the conference presentation supported "alignment which gives rise to relations of identification" (Wenger-Trayner & Wenger-Trayner, 2015, p. 21).

4.2.4.4 The realised value of mentoring for mentor Patrick and pioneers Sanele and Simo

a) The mentor wanted to continue mentoring to contribute to a greater cause

Early on, Patrick explained that although he would do it differently with more time allocated, "I would be quite keen to do this on a regular basis" as he felt that there are gaps in the conservation field that people can fill. The amount of time required to mentor was not planned for.

> But we've got to restructure a programme whereby our expectations are realistic, the amount of input that they required is there, and it's a bit like we get these raw individuals that come out of university, and they not ready yet to work, we can't just throw them into the trenches, so we've got to think about, well how much time and

> what kind of fast track process is going to get them out of the trenches, and then at the end of that two-year period … if they are valuable to us, they will get jobs.
>
> (C1M3VA)

Patrick further described the greater cause:

> As an organisation and an individual we've got an obligation to create another generation of people moving into that and we've, and regardless of shifting work ethics, we've got to just manage that, we need a new generation of conservation coming in.
>
> (C1M3VA)

The realised value was that Patrick had development a sense of fulfillment to this greater cause and felt that he could make a contribution to the sector.

b) An opportunity to gain insight into an individual before supporting their employment

Patrick said that mentoring through Groen Sebenza allowed for a "unique window" into the pioneers, which was useful, to decide whether to offer them a job (C1M3VA). The realised value was that he supported Simo's permanent employment. Patrick confirmed that Simo had taken up permanent employment and he had been one of the referees for the position. "I gave an absolutely fair verbal and written description of him. And he got a copy of that. And he deserved that post, I thought he was right for it, so I was really happy for him" (C1M3VB).

c) Mentor understanding and appreciating the pioneers' differing perspectives and able to learn

Patrick described how he had the idea to get the pioneers into a reserve to experience it in order to establish whether they would be field people. He realised that Sanele was not. However, he also realised that while their priorities or perceptions may be different to his, neither was wrong. It was his responsibility to "create fertile ground or an embarking environment whereby those particular perceptions can take root and start to effect change" (C1M3VA). The realised value of this mentoring experience was that the mentor changed in his ability to appreciate and engage with the different perspectives of the pioneers. He was also able to learn and said that the experience was a good learning curve:

> I think this might apply to quite a few of us in the conservation sector, is that we're not people. So interactions with interns where there's a positive outcome, happens by some kind of random infusion rather than the fact that we're skilled facilitators or teachers. I learnt a lot.
>
> (C1M3VB)

d) Pioneer was able to present at a conference

Patrick described the work that was undertaken in preparation for Sanele's presentation at a conference, with regular practice and feedback sessions. His final presentation, although he was nervous, went very well, in Patrick's opinion:

> He did a lot of work on it and on the day that he presented, it was really clear that he was just terrified, absolutely terrified. That kind of surprised me, because when he speaks he's really confident. But he was really, really terrified and for me the victory of that thing was not that he presented it well because he didn't, it was that he showed up at all. And he stood up there, and the thing about it was it wasn't that he didn't know his stuff. He really did, and he'd worked really hard. And the audience who was there knew that he was nervous. And I mean my bosses pitched up, they were there to support and there was nothing negative about it. He did a really, really good job.
>
> (C1M3VB)

The realised value was that the pioneer was suitably skilled to present and contribute to the organisation.

e) A formalised change in approach to mentoring in the organisation in future

Patrick felt that it was wrong that due to his limited time he could only interact with the pioneers when they wanted to and he had no expectations of them. He felt that the outcome would have been better if he had time allocated to spending time understanding the pioneers, their struggles, their needs and providing more direction. Patrick said that he had discussed a different approach with his CEO and Chairman of the Board (note that this was not the case NPO but a different NPO to which the pioneers were seconded) (C1M3VB):

- there would be a system and support base for the pioneers that would be institutionalised.
- a larger number of pioneers – five rather than two pioneers, would be better as "there would be a community of practice amongst them" as well as a broader network:

  > The community of practice wouldn't just be them although we could select the interns such that they could feed each other in that sort of way. And it wouldn't just be mentor and them. The community of practice, and I think that that's almost key – is that those colleagues I work with, those people in the organisation, people at university, to create a sort of a network where they can refer to. And that does two things: first of all it creates a kind of security base for them; secondly there will be times when I can't manage them and they need to be self-supervising in terms of increasing their own knowledge and I need to send them off and go and do research. At the moment when I do that I have no idea what he's doing, and I don't have time to know what he's doing. But if there's a community of practice, sort of these voluntary study groups and networks of people he can communicate with, it's going to enrich that process. And then that's going to create an idea, when they going into the workplace they're going

> to realise, setting up communities of practice, especially in ecological thinking and community work, which involves a high degree of complexity, that that's a good way to work anyway. So, I think that is what we do.
>
> (C1M3VB)

- an administrative person if numbers of pioneers are high enough to justify a salary
- a rigorous selection process. Patrick explained that while he would have selected Sanele and Simo over again, he would have had different expectations and they would too.

Patrick felt that a different approach such as this would allow the organization to secure good staff members and retain the pioneers as well as "creating a network of really useful people in other organizations" (C1M3VB). The realised value of this mentoring experience was that the organisation was making effort to change its approach to upscale mentoring.

4.2.4.5 Overall activities indicating the value of mentoring for mentor Patrick and pioneers Sanele and Simo

A summary of mentoring activities for mentor Patrick and pioneers Sanele and Simo according to each value creation cycle is represented in Table 12 that follows.

Table 12: Overall mentoring activities indicating the value of mentoring for mentor Patrick and pioneers Sanele and Simo

Immediate value (IV)	Potential value (PV)	Applied value (AV)	Realised value (RV)
1. The pioneers were exposed to different aspects of research work 2. Most suitable pioneers selected 3. Internal mentoring workshops useful	1. Workload and deadlines intense 2. Mentor's expectations changed through early written and oral feedback sessions 3. Mentor recognised expectations can be high 4. Pioneer could lead a project 5. Pioneer wanted the opportunity to work in his field of study	1. New work required a level of experience to deal with stakeholders sensitively 2. Pioneer found resolution of problems difficult 3. Mentor exposed pioneer to different ideas and schools of thought 4. Pioneer understood work requirements 5. Pioneer received varied work experience 6. Mentor adjusted his expectations of the pioneers and his effort 7. Mentor expected pioneers to accomplish simple tasks and understand concepts before progressing to more important tasks 8. Mentor encouraged pioneers to pursue qualifications 9. Mentor guided and assisted the pioneer in his conference presentation	1. The mentor wanted to continue mentoring to contribute to a greater cause 2. An opportunity to gain insight into an individual before supporting their employment 3. Mentor understanding and appreciating the pioneers' differing perspectives and able to learn 4. Pioneer was able to present at a conference 5. A formalised change in approach to mentoring in the organisation in future

Table 12 of mentoring activities for each value creation cycle, was further developed to present the essential findings emerging from the data in Figure 53 of immediate, potential, applied and realised value of the mentoring activities. Certain factors which emerged as possibly having enabling value were noted in Figure 53, to be further expanded on in Chapter 5.

4.2.4.6 Indicators of the value of mentoring for mentor Patrick and pioneers Sanele and Simo

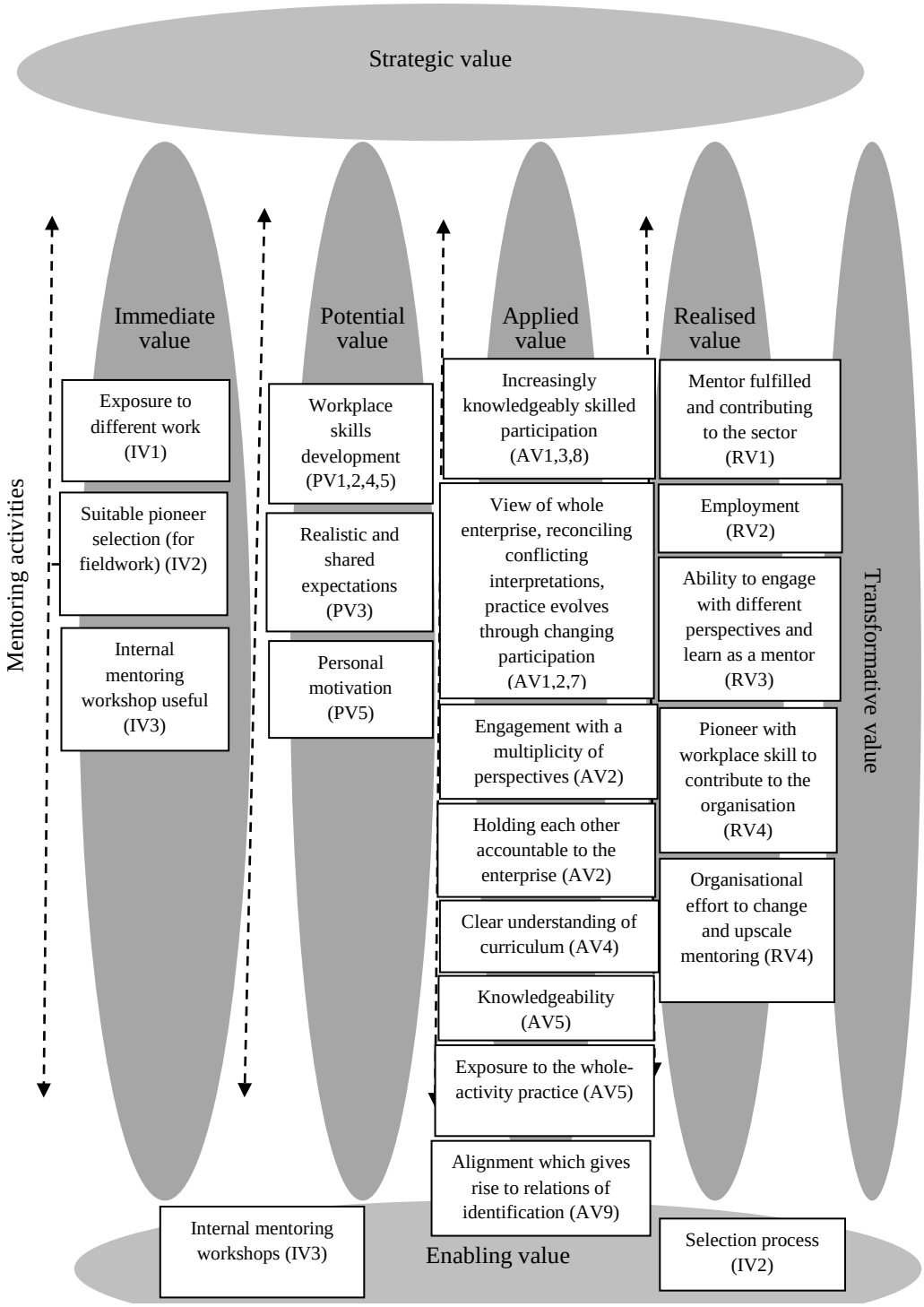


Figure 53: Overview of indicators of the value of mentoring for mentor Patrick and pioneers Sanele and Sim using the value creation framework of Wenger-Trayner and Wenger-Trayner (2014)

A mentoring value creation trajectory for mentor Patrick and pioneers Sanele and Simo is presented in Figure 54.

4.2.4.7 Mentoring value creation trajectory for mentor Patrick and pioneers Sanele and Simo

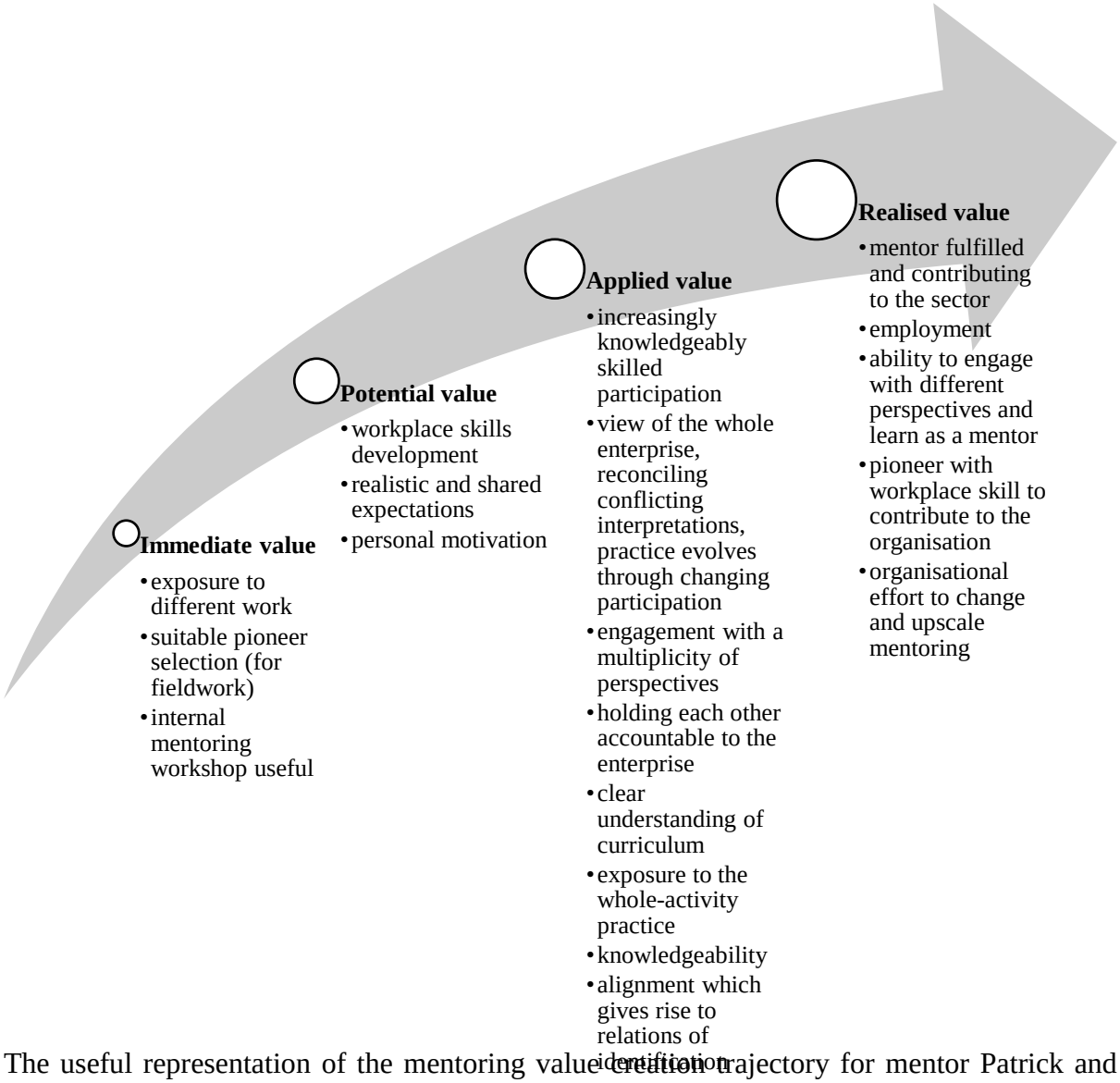


Figure 54: A mentoring value creation trajectory for mentor Patrick and pioneers Sanele and Simo

The useful representation of the mentoring value creation trajectory for mentor Patrick and pioneers Sanele and Simo in Figure 54 was used as part of the feedback of the findings of the research to the NPO as strategic value in Chapter 6. Next, I turn to the value of mentoring for the case of the environmental consulting company.

4.3 Case 2: Mentoring as a value creating proposition in an environmental consulting company

4.3.1 Context of mentoring in an environmental consulting company

The second case that I researched was an organisation that is an environmental consulting company based in KwaZulu-Natal, South Africa. According to their website and founder and director (C2M2Context, website excluded for anonymity), this company has a specialist focus on water, biodiversity and environmental engineering. Their core business and services include:

- river health and water quality;
- wetland management and rehabilitation;
- environmental engineering;
- environmental support to the mining industry;
- drone operations;
- biodiversity;
- GIS and biophysical spatial planning;
- ecological water requirements and reserve determination studies;
- water use licensing;
- hydrology;
- advanced ecosystem modelling;
- aquatic and terrestrial biodiversity assessment;
- diatom analysis;
- training;
- spill management and landfill site monitoring;
- environmental impact assessments;
- environmental data management;
- corporate social investment;
- research;
- development and sale of industry tools.

Figure 55: Wetland rehabilitation engineering fieldwork being done by the consulting company (Photo: company website)

I will refer to the organisation as the 'consulting company'. The consulting company also supports community awareness and knowledge dissemination through their projects. The company and its founding director played an active role in the development of an award-winning school and community-oriented river biomonitoring and educational tool. The company further actively supports a local river conservation non-profit organisation.

Figure 56: Public sector river education and awareness activities of the consulting company (Photo: company website)

The consulting company had about 20 employees during the research period and was structured in the following way:

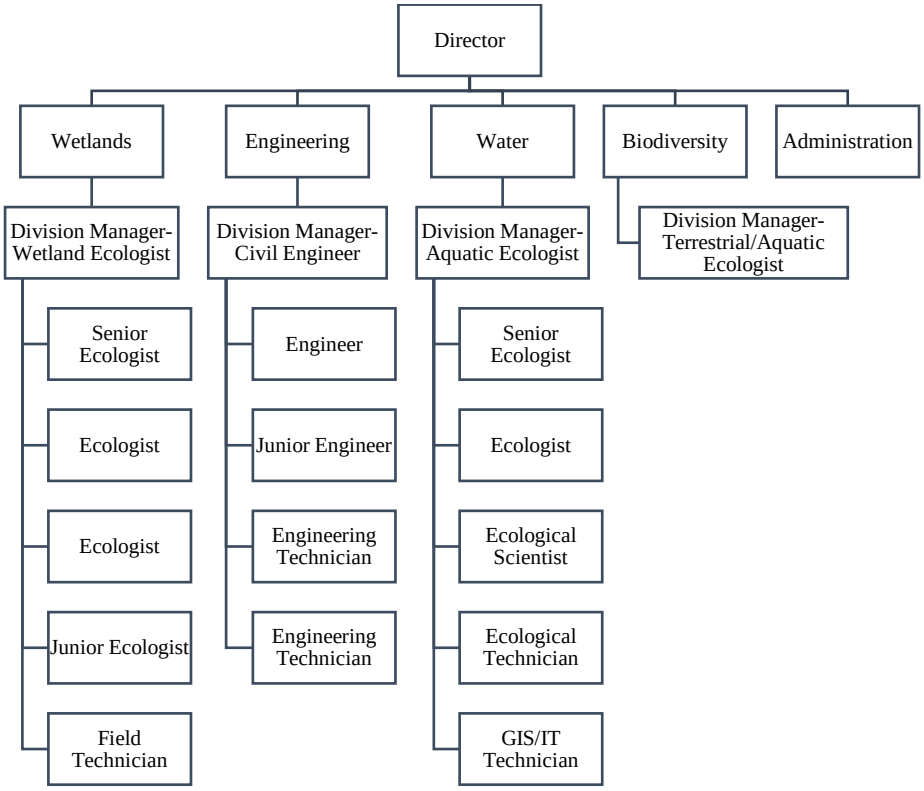


Figure 57: Organogram of the environmental consulting company (Source: company website)

In 2012 the director represented the organisation as a partner of the Groen Sebenza proposal, offering to host three pioneers with match funding (SANBI Partnership list June 2012). The director and pioneers as well as mentor Jack are introduced below.

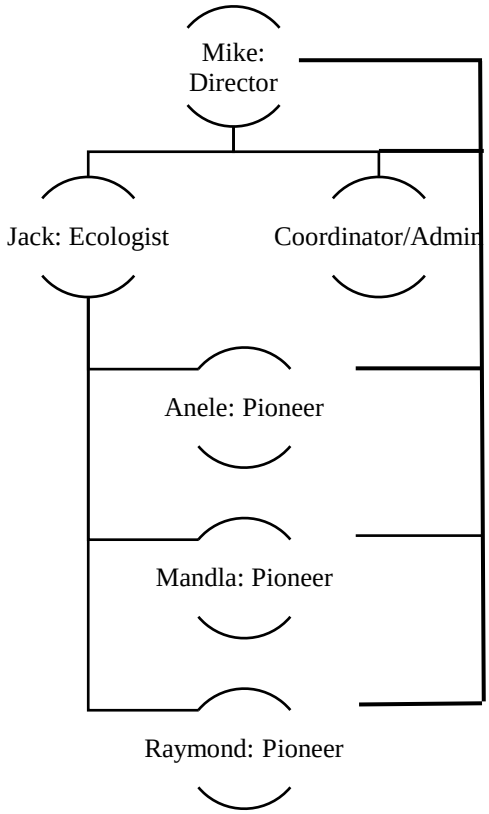


Figure 58: Organogram of pioneer support in the environmental consulting company

4.3.1.1 Mentor 1 (Mike)

Mike is the director and founder of the consulting company. Mike oversees all the various sections of the consulting company. He indicated that a staff member was originally assigned to coordinate the implementation of Groen Sebenza but she left early in the placement of the pioneers. In 2014 Mike said that he was the mentor for pioneers Anele and Mandla. The start of implementation and placement of the pioneers was chaotic due to delays and administrative processes. There was also a rush to select the best graduates (C2M2Context).

Mikes motivation for getting involved in Groen Sebenza was as follows:

> A little bit of transformational agenda to some degree. I suppose I quite enjoy teaching. They say if you know something you should teach it. So, looking to pass on some of that stuff to teach, to get a bit of transformation in (the consulting company). A good opportunity to participate in what seemed like a worthwhile programme. So those were probably the principal reasons for getting involved and selfishly that they were going to foot that, have their salaries covered and all we had to do then was host them, and we were going through a phase of needing a few extra hands.
>
> (C2M2Context)

Mike shared that in terms of mentoring experiences prior to Groen Sebenza, the consulting company would host students who wanted to learn for a few months. The approach to mentoring was described as:

> We don't have a formal structure in that sense, actually the nature of consulting … it's normally flat out, and the way we model, I model – you jump on the bus that's moving quickly, you learn as you go. We will put you on training courses as we find them, as is appropriate, but you have to buck up, this is the real world and get on with it. We are not going to hold your hand and wipe your nose. It is unstructured, but structured if that makes sense. Unstructured in the sense that we are going to meet every week and talk about how life is, and how the learning is – it's "right, here is something, go for it" and it has worked well, I think, in that sense.
>
> (C2M2Context)

- **Pioneer 1 (Anele):** In 2014 Anele was 23 years old and had studied a Bachelor of Science degree. She had no previous mentoring or internship experiences and Mike took responsibility for her mentoring. She left the consulting company in early 2015 and so did not participate in the second and third site visit data collection (C2M1P1Q, C2M1P1VA).

4.3.1.2 Mentor 2 (Jack)

Jack (31 years old in 2014) was responsible for mentoring Mandla and Raymond together with Mike. He mentioned that various other staff would contribute to mentoring on an ad hoc basis with other basic skills. Jack's background was as an environmental consultant and his position at the consulting company was as an aquatic biomonitoring specialist: "conducting biological biomonitoring programmes for long, medium and short-term projects and reporting on said projects. Reporting includes GIS; interpretation of monitoring data and recommendations related to the findings" (C2M2Q).

In early 2014 Jack defined mentoring as:

> A form of on the job education, where physical and analytical skills and knowledge are passed on by a mentor to a learner. These skills should invoke thought processes in the learner to enable them to eventually be proficient in the skill without the need for assistance from the mentor. The learner should be able to analyse and process information and interpret the information correctly by the end of the mentoring process.
>
> (C2M2Q)

- **Pioneer 1 (Mandla):** Mandla was 24 years old in 2014 and had studied a Bachelor of Science degree in agriculture, majoring in soil science at the University of KwaZulu-Natal. He had also completed his Postgraduate Certificate in Education and grew up locally in Pietermaritzburg, attending rural schools in the Imbubu area. Mandla's job description at the consultancy company was as a Water Quality Specialist and thus he would be involved in river health biomonitoring. He was already assigned to be mentored by Mike but was also mentored by Jack. Mandla had not been mentored prior to this placement (C2M1&2P2Q, C2M1&2P2VB).

- **Pioneer 2 (Raymond):** Raymond had studied a Honours degree in hydrological management and water resources at the University of Venda in his home province of Limpopo, graduating in 2012. For a period he started his own construction company in Johannesburg before he joined an internship programme with the Agricultural Research Council (ARC) in Pretoria. This opportunity was focused on agriculture and he sought opportunities in his field of hydrology. He was then selected to be placed at the consulting company with Groen Sebenza in 2015 (C2M1&2P3VB).

4.3.2 The value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

4.3.2.1 The immediate value of mentoring activities for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

The immediate value of mentoring was classified as mentoring activities and interactions that were considered 'meaningful' by the mentors and their pioneers. These activities and interactions can produce value in and of themselves. When interviewed, the mentors and pioneers were asked which activities and interactions that took place during the mentoring process or relationship, they considered meaningful.

a) Rigorous pioneer selection process

Mike described their "rigorous process of selection which involved numeracy, written and mapwork" and that the pioneer candidates undertook a test with time constraints (working under pressure) and were then interviewed (C2M2Context). The value of this activity was good

selection of pioneers with essential workplace skills. It is important to note the complexity of the fact that while this mentoring activity holds immediate value for the mentor, this standard practice is couched in an instrumental human capital-orientated selection process that seeks to quickly and efficiently identify individuals with the relevant skill set. The presence of such practices could be exclusionary to some of the unemployed and disadvantaged individuals who organisations such as Groen Sebenza seek to support. This complexity is explored in more detail through the structural and cultural constraining factors and the generative mechanisms shaping these factors in the environmental consulting company in Chapter 5 (section 5.3.2, 5.3.7.1 and Figure 69).

b) Dedicated pioneer coordinator in the beginning

During the early months of the pioneers' placement in the organisation, a specific staff member was responsible for managing the programme (C2M2Context, C2M2VA). The value of this activity was the availability of a dedicated coordinator to support the mentors in responding to the pioneer needs and administrative tasks, freeing up time for the mentors to develop the pioneers' specific workplace skills. Although this changed early on and the mentor Jack took on this responsibility, the value of this activity was identified. When the coordinator left, Jack felt that there was "background stuff" in managing the pioneers that he could not do (C2M2VA). Jack acknowledged that at times they had to "get them work for the sake of it" and "look for something for them to do", which was challenging. This was during periods that they were busy with specialised work that the pioneers could not contribute to (C2M2VB). Mandla confirmed that sometimes there was not much to do. He did not feel that he could be useful in writing proposals and hoped to improve (C2M1&2P2VB). Raymond said that when Jack was not around, he could feel that it was quiet and a challenge. He was not there to check on them (C2M1&2P3VB).

c) Checking in on personal motivation

Jack described a discussion with the pioneers in which he asked: "What do you want to do? What are you here for?" From this discussion he felt that Mandla's "heart isn't really in it" while Raymond shared how he was inspired to be doing the work (C2M2VB). During my observations of the fieldwork I did note, however, that Mandla was enthusiastic and engaged during the fieldwork and especially in the environmental education aspects of the work (Fieldwork C2). Jack had also said that Mandla had responded to his questions indicating his interest in teaching (C2M2VB). The value of this activity was that it provided the mentor with

an understanding of the pioneers' personal motivation and prepared him to mentor and provide opportunities in response to that motivation.

Figure 59: Mandla showing small-scale farmers how to do biomonitoring in KwaZulu-Natal

d) Induction of pioneers to work

SANBI held a Groen Sebenza induction event in 2013 and this event was acknowledged as important by Mandla. He said that it helped him "kick start" his internship (C2M1&2P2Q). Mike reported that a combined induction event with a local NGO took place (C2QReportQ22013). The value of these events was to introduce the pioneers to the workplace and provide some preparation for them to be able to work.

e) Writing and mentor reviewing reports

Mike acknowledged that Anele had done well in writing and then reviewing her own reports. Mike described his role in her learning: "She will write something, and I will review it and give her feedback and say … you must write it like this" (C2M2Context). The value of this activity was that it prepared Anele for essential workplace tasks.

f) Fieldwork practices and tools

Mike noted that it was Jack who was undertaking "multiple fieldwork excursions" (C2QReportQ22013) with the pioneers and acknowledged the importance of this "practical training on the job, in the field" (C2M2Context). Jack confirmed this and described what he hoped to achieve with the pioneers in doing South African Scoring System (SASS) Version 5 Rapid Bioassessment Method for Rivers (C2M2VA). Mandla said that the bulk of his work was river health biomonitoring and SASS 5 (C2M1&2P2Q). I observed this fieldwork, the

SASS 5 practices and tools undertaken by Jack with Mandla and Raymond (Fieldwork C2). The organisation provided the pioneers with fieldwork clothing. The value of this activity was that it prepared the pioneers for essential workplace skills.

Figure 60: Raymond and Jack doing SASS 5 monitoring in a river

g) Pioneer training in GIS and scientific writing

Mike explained they had organised training for the pioneers in GIS and scientific writing. He felt that a skills audit early on would have assisted in better understanding what training to focus on (C2M1VA). The pioneers were involved in many training opportunities:

- Three-day QGIS course (C2QReportQ22013, Training schedule)
- SASS5 Training course, September 2013 (C2QReportQ22013, Training schedule)
- Introduction to Aquatic Ecology course (C2QReportQ22013, Training schedule)
- Tools for Wetland Assessment, September 2013 (C2QReportQ22013)
- Introduction to the project context, application of training and basic principles in the project context (C2QReportQ22013)
- Touch Typing training (C2QReportQ12014)
- Trained in the methods of water quality analysis (C2QReportQ12014)
- Training in identifying macroinvertebrate species and sampling (C2QReportQ12014)
- Training and developing in Microsoft Excel worksheets (C2QReportQ12014)
- Environmental education (C2QReportQ12014)
- Microsoft Excel worksheets, QGIS (C2QReportQ32014)
- Introductory Tree Identification course (C2QReportQ32014, Training schedule)
- CV Writing Skills course (C2QReportQ12015, Training schedule)

- Scientific Writing course (weekly) (Training schedule)
- Communication and Leadership Course (Training schedule)

The value of these training opportunities was that it prepared the pioneers for essential workplace skills.

h) Professional work setting

Mandla highlighted the importance of being in a professional work setting: "It's been a learning curve really, just being introduced into the professional setting. Being in a professional setting for the first time in my life, so it's been a nice experience, a positive experience" (C2M1&2P2VB). The value of this activity was that it prepared Mandla for being in the workplace.

4.3.2.2 The potential value of mentoring activities for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

The potential value of mentoring activities was classified as having the potential to be realised later by the mentors and pioneers, for example insights, resolutions, action plans, new relationships, resources that could be helpful in future. The potential value of these mentoring activities was identified by the pioneers and mentors.

a) Pioneers selected for essential workplace skills

During pre-selection, pioneers were required to read and review papers, write an abstract, analyse data, generate graphs and trend lines using Excel and mapwork. When they passed this phase, they went into selection phase where they performed a test under time constraints (C2M2Context). Mike emphasised in his quarterly report in 2013 that "the initial learning process is very important (laying down of basic principles)" and that they planned to do additional training (C2QReportQ22013). The potential value of this mentoring activity lay in their provision of essential workplace skills which had value that would be realised later by the mentors and pioneers.

b) Opportunities for pioneers who show gumption

Mike shared: "If you do show some gumption, then I think there's all sorts of opportunity and I think some of them have taken that opportunity and have grown, some haven't". Mike felt

that those who did not have ‘gumption’ or in other words, did not take initiative, never would and were probably not suited to consultancy work (C2M2VA). The potential value of having ‘gumption’ or having the personal motivation for taking initiative lay in the opportunities and experiences for learning that were available outside of what the busy mentors could provide.

c) Networking opportunities provided

In Mike’s quarterly report to SANBI, he noted that Anele had attended a Water Symposium. He also reported that interactions and activities with pioneers from nearby organisations was encouraged and their organisation had hosted a ‘tea’ for pioneers to meet and discuss the state of the uMngeni catchment, the activities they are involved in and brainstorming around river health and citizen science (C2QReportQ32013). The potential value of these activities for networking to meet and connect with other pioneers and members of the community on work, was recognised.

d) Induction events introduced essential workplace skills and orientation

Mandla explained that during the Groen Sebenza induction event the pioneers were given: “tips of how to be good employees, how to budget our salaries and how to network as we look forward to our professions after the internship” (C2M1&2P2Q). Mike reported that a combined induction event with a local NGO took place where the pioneers did miniSASS training, a workshop and fieldtrip with orientation (C2QReportQ22013). The potential value of these skills and orientation to the networks that were introduced could be applied by the pioneers in their careers.

e) Recognising the need for scientific writing skills development through the selection process and performance evaluation and providing training opportunities for learning the skill

The pioneers’ professional report writing skills were a continuous concern for Mike (C2QReportQ32013, C2QReportQ12014, C2QReportQ32014, C2QReportQ12015). Mike arranged training for the pioneers to strengthen their scientific writing (C2QReportQ32013): “what to do, how to write, formatting etc.” The selection test would have provided a baseline understanding of the pioneers’ scientific writing skills. A university training facilitator went to the workplace weekly for a period. Mike said that there would be homework and the pioneers worked on something that they were already writing. They were able to identify areas of

improvement and rework their writing. “It’s a bit of a handholding exercise, but I think it’s important. Because that’s probably one of the biggest downfalls is their ability to write, structure their thoughts, write coherently and logically” (C2M2VA). Mandla confirmed that writing reports and proposals was a challenge for him:

> So for me, it’s been a challenge, because I don’t work well with proposals because my writing skills and my language skills basically need work obviously so I will take too long for the reports for the proposals so I was not involved in that … I can say that the language difficulty has been affecting me, because I wouldn’t get big projects, obviously it’s a consultancy firm here, everything’s tight, if it’s a big report for a big company. We’ve been involved but not too much involvement really. Basic things. But I’m hoping that over time I can get to improve.
>
> (C2M1&2P2VB)

In Mandla’s performance evaluation completed by Jack in 2014, Jack commented that written communication and report writing was “fine if updating or using a template, very poor from scratch” and that he required more practice and had to do the writing course (Performance Evaluation Mandla October 2014). In Anele’s performance evaluation in 2013, it was noted by the coordinator that there was “room to build capacity and improve skills” in written communication and report writing and that she required “training in writing skills and exposure to reporting and proposal writing” (Performance Evaluation Anele October 2013). The potential value of recognising the need for scientific writing skills development and providing opportunities for learning would be realised later in the pioneers’ scientific writing of proposals.

f) Questioning the pioneers about workplace tasks and knowledge for understanding

Jack described how he preferred to push the pioneers to think and remember how to do certain tasks or about certain areas of knowledge rather than only providing the answers. “It’s working into them the thought process for when they get to site. As opposed to just telling them what to do – sample here or there. Why there? What’s the reason for it?” (C2M1VB). The potential value of this questioning before, during and after their workplace activities such as water quality monitoring (Figure 60), was prompting the pioneers to become familiar with workplace skills and process and for the mentor and pioneers to reflect on where they require further learning.

Figure 61: Mandla examining a river upstream from the water quality monitoring site

g) Explanation of the fieldwork process by the pioneers

Subsequently during the actual fieldwork and while doing water quality monitoring, Jack described the fieldwork process of evaluating the river and catching insects in order to assess the quality or condition of the river. While in the field, Jack asked the following of the pioneers: "Go out in field, arrive and say: you've come to site, and you are by yourself. You are here to run SASS 5. What would you do?". He then worked through what they said step by step and where there are inconsistencies or errors in what needs to be done, he explained and highlighted the issues (C2M2VA). Mandla shared some of his understanding of the dangers and important safety and hygiene practices when undertaking fieldwork (C2M1&2P2Q). Again, the potential value of this activity was prompting the pioneers to become familiar with workplace skills and process and for the mentor and pioneers to reflect on where they required further learning.

Figure 62: Jack, Raymond and Mandla describing SASS 5 biomonitoring to small-scale farmers

h) Recognising difficulties and areas of improvement

Mandla said that he was learning new things and it was challenging, for example the fieldwork was challenging and at times scary – "working in water, sometimes its deep, so I have to face my fears" (C2M1&2P2VB). As mentioned previously, Mandla struggled with writing and with communicating (although he felt he could communicate with staff):

> Yes, I'm not quite good at communicating obviously. Reports and to do presentations would be quite stressful so I have to try to get some confidence in that, improve in written reports and also, as well, to improve on my skills, communication skills, just my confidence and taking the instruction and executing the instruction. I still need to improve on that, to be able to take the instruction and work on the instruction without having to be confused a bit.
>
> (C2M1&2P2VB)

The potential value of Mandla being able to recognise his difficulties despite challenging new experiences, was that he could recognise where he would learn and practice further.

i) Useful employability activities for pioneers established through SANBI mentoring support workshop

Jack summarised the SANBI mentoring support workshop towards the end of the programme as securing employment for the pioneers: "the whole reason behind the meeting was: We are down to the last few months … are we going to place guys in your organisations? Where have we had successes? Where have we failed? And trying to review what's been happening". The mentors were able to establish what they need to do, what skills the pioneers need, and training needed to ensure pioneers were ready for permanent employment. The mentors established that they would need to do mock interviews and strengthen writing skills (C2M2VB). Mike reported that the pioneers would do a CV Writing course (C2QReportQ12014). The potential value of this activity was to develop further skills of the pioneers to secure a job and would be realised in the employment of the pioneers.

j) Pioneer showing interest in new areas of work

Jack described how Raymond had been showing interest in surface water quality, whereas previously he had set his interest in boreholes. Raymond had indicated that he was keen to learn about water quality and take that back to Limpopo which is his home province (C2M2VB). The potential value of Raymond developing his individual interests and motivation while being exposed to new areas such as water quality would be recognised in his fulfillment in further learning and employment later.

k) Pioneers wanting to help their communities

Jack noted that Raymond wanted to go back to his community with his skills and knowledge and help. Mandla had also indicated that he would like to help local communities (C2M2VB). The potential value of the pioneers showing personal motivation would be recognised in their fulfillment later in their careers.

l) Pioneer able to discuss struggles with mentor

Jack showed frustration with Mandla not being able to complete task. Jack then said that Mandla shared with him that if he is given more than one task at a time, he forgets. Jack instructed him to write his tasks down. Mandla then asked: "If I write it down then I don't understand, have I written it down incorrectly?". Jack then reassured him saying: "That's fine, write it down and ask us, is this the right thing?" (C2M2VB). The potential value of Mandla and Jack being able to openly discuss challenges would allow the pioneer to receive guidance to improve his understanding and practice in future.

4.3.2.3 Learning activities indicating applied value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

Adapting and applying mentoring activities in different contexts can lead to changes or innovations. The applied value of activities lies in the ways workplace skills and practice have changed in the process of mentoring. Or how mentoring activities may motivate a change in the way things are being done.

a) Mentor guides pioneers to do tasks themselves, with repeated guidance, examples and feedback – to a point

Jack felt that if the pioneers attempted to try out tasks themselves, they would remember better. He described how he helped them to do so to a point. After numerous times that he had helped to do certain tasks, he voiced a sense of frustration. He said that if the task was difficult such as invertebrate identification, he would provide repetitive assistance (C2M2VA). Jack said that he would instruct the pioneers on what he wanted them to do and how he wanted them to do it and would then provide feedback on their progress (C2M2VB).

Raymond shared that Jack used examples to explain: "He'll tell you, you know this? I did this and I did it in this way. From his examples then you come up with your own things and ways to do it" (C2M1&2P3VB). Mandla stated that Jack was a good teacher: "He's able to make

nice examples for you so that you understand". He also noted that he would ask Jack a question and he would always ask what he (Mandla) thought first – "then you learn by yourself" (C2M1&2P2VB). While at the organisation I observed that Raymond had called Jack to help him, saying "things are tough" as he was stuck on something in his report writing. Jack advised him on what to include and change in the report (Site visit C2). Raymond had said that he had learned the most from Jack (C2M1&2P3VB). Jack's approach when applied was important for the negotiation of meaning. Wenger (1998, p.52) said "our engagement in practice may have patterns, but it is the production of such patterns anew that gives rise to an experience of meaning".

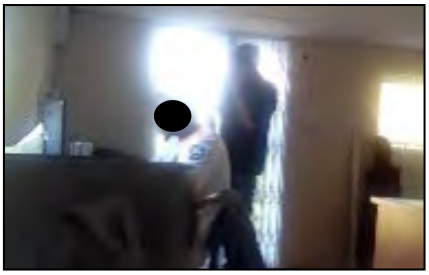


Figure 63: Jack checking in and helping Raymond with report writing in their office

b) Mentor providing increasing responsibility to the pioneers

Jack acknowledged that he was not only taking the pioneers out on fieldwork when there was space to assist in his work. He was "actively" getting them involved and trying to teach them. "With writing task and projects, I'm giving them more responsibility there and helping them through that where I can" (C2M2VB). Jack was enabling the pioneers to make meaning of the work that they were doing. Jack was moving the pioneers towards full participation in practice.

> Full participation in practice which involves not just a greater commitment of time, intensified effort, more and broader responsibilities with the community and more difficult and risky tasks, but, more specifically, an increasing sense of identity as a master practitioner.
>
> (Lave & Wenger, 1991, p. 111)

Raymond's looming deadlines and busy week (C2M1&2P3VB), Mandla taking on the water quality assessments during fieldwork (C2M1&2P2VB), Raymond running the Spring Health Index as his main project (C2M1&2P3VB) are all examples of their increasing participation in practice and increasing sense of identity in the community and so this increasing responsibility given by the mentor to the pioneers had applied value.

c) Mentor takes time to work with pioneers

Anele had described how Mike would sit with her and work through a document she had prepared. He would highlight the grammatical and conceptual errors, explain certain tones when reporting, attention to detail and precision (C2M2P1Q). Mike confirmed that he met with pioneers on writing, looking at attention to detail, language with repeated review (C2M1VA). Jack also provided guidance on writing reports (C2M1&2P3VB, Site visit C2).

In 2014, Mike had got to a point where it was no longer worth his while to invest time in Mandla:

> Quite frankly, those that are shaping get more attention. Those that aren't there's no time. And they are currently treading water. One individual specifically. And that's not from want of trying …I've warned him to look for alternatives as he's not getting anything permanent here. May be harsh but it's the reality.
>
> (C2M1VA)

Mandla had acknowledged his difficulties and stated:

> I had difficulties with following instructions reason being he never explained why I had to do those specific things unless I ask him, I am working on the problem though. I am working on being an independent worker that never opts for excuses but be competent and do my job with desire and zeal.
>
> (C2M1&2P2Q)

In 2015 Mandla said that he was a slow learner but that they had been patient with him (C2M1&2P2VB).

Later in 2015, Mike said that: "If the individuals have shown real promise and spark, then I'm happy to invest the time. If they have not, there's no time for that …there's no time to gently guide them". Mike referred to a new intern (not a Groen Sebenza pioneer) who was able to get involved in projects and write reports. Jack described how mentoring took up a bit more time throughout the process of a work task. An audit that he did would normally take four days but took five days with mentoring (C2M2VA). Mike also said that having to mentor the pioneers required more management than they were able to provide, which is a worry. He felt that it was worth it as some had "stepped up" (C2M1VA).

In 2015, Mike felt that Raymond was doing well by developing a component of a science project and so was able to do a Spring Health Index as he "had the capacity" (C2M1VB). Jack

confirmed Raymond's competence and writing style was good and thus it had been going well (C2M2VB).

Figure 64: Raymond catching invertebrates for biomonitoring during fieldwork

Understanding the dynamics of negotiated meaning is understanding that the "contexts that contribute to shaping the experience of (writing for example) reach far and wide in time and space (Wenger, 1998, p. 54). The experience of learning scientific writing were very different for Mandla, Raymond, Anele and even Mike and Jack. Scientific writing requires a very specific way of doing that involves being a member of a community of scientific writing practice that "embodies a long and diverse process of participation and reification" (Wenger, 1998, p. 55). The convergence of participation and reification during scientific writing is when the negotiation of meaning takes place. Reification refers to "the giving form to our experience by producing objects that congeal this experience into thingness" (Wenger, 1998, p. 58). The pioneers did not create the process of scientific writing, yet they must absorb scientific writing into their practice, "Reification must be re-appropriated into their own processes in order to become meaningful" (Wenger, 1998, p. 60). The applied value of taking time to work with the different pioneers allowed for the "long and diverse process of participation and reification".

This was not always easy. Jack had to make effort to stay calm and patient at times: "I had to sit down and think very carefully about how I would proceed. I'm a person with a very long fuse when it comes to patience. We had a few incidences where they've chosen to ignite next to the dynamite and I've had to be calm and patient and reevaluate" (C2M2VA). Mandla confirmed that Jack was patient with him (C2M1&2P2VB).

It is important to note the complex interplay of human capacity development and mentoring as a return of investment and as a value creation proposition. This complexity is explored in more detail through the structural and cultural constraining factors and the generative mechanisms shaping these factors in the environmental consulting company in Chapter 5 (section 5.3.2, 5.3.7.1 and Figure 69).

d) Pioneers only connecting with the mentor and not fitting in with other staff in the organisation

In 2014 Jack had said that there was a good team dynamic and that they all get on well in the organisation. However, he did note that it was difficult to find pioneers who have the same personalities and academic backgrounds that fit in with them. (C2M2VA). Jack said that Anele, who had struggled with being far from home (Limpopo) in the beginning, had been quiet and it had taken a while for her to fit in. However, "she made effort and by the time she left it was vastly improved in terms of how things were going" (C2M2VA). Mandla said to his mentor Jack that he felt that Jack was the only person in the organisation who made an effort to talk to him. Jack felt that he has seen other staff members trying to make conversation with Mandla. He felt that the staff are not involved in any work with the pioneers and so have little to connect with in conversation. He also felt that Mandla was not trying to engage in the conversation (C2M2VB). When I was at the organisation, I noted that the staff would gather for tea, but Mandla would take his tea and return to his office (Site visit C2). Mike did say that the pioneers had been doing fieldwork with the engineer and a French intern as well as a farming programme with an external wetland specialist (C2M1VB). As mentioned, participation is crucial in the negotiation of meaning.

Wenger (1998, p. 56) described participation as both personal and social and as "a complex process that combines doing, talking, thinking, feeling and belonging. It involves our whole person, including our bodies, minds, emotions, and social relations". The reasons for Mandla's sense of belonging or willingness/ability to fit in may be complex. What is important to note is that "participation is broader than mere engagement in practice". There are diverse places and ways of participating in the workplace which can be located outside of the office or workplace practice, in social settings. This participation influences their identity over time. Participation goes beyond simply doing invertebrate identification in field with Jack. "It places the negotiation of meaning in the context of our forms of membership in various communities" (Wenger, 1998, p. 57). Whether a pioneer was "fitting in" with the rest of the members of the

organisation is important to understand their participation and thus negotiation of meaning, in scientific writing, for example. If the pioneers were struggling to fit in with other staff, the team dynamic that Jack explained between himself and the pioneers would have been critical to their participation and the interplay of their participation and reification through writing a scientific report or using a net that would shape their identity (Wenger, 1998, p. 70). Their confidence in being able to do scientific writing outside of their team may not have been evident. The applied value of Jack spending time with the pioneers, helping, talking, being patient (see above) were all crucial building blocks to their social participation.

e) Mentor spending time in practice with pioneers

Following on from above, in January 2015 Jack said that he had taken on full mentorship of Raymond and Mandla from Mike. Mike confirmed this (C2M1VB). Jack said that he had been spending time with them, talking and helping where he could. He further said that they spoke mostly about the projects they were involved in but also about other things (C2M2VB). Jack said that he had been drawing on his experiences in the workplace and previous mentoring experience that he had from church in his mentoring of the pioneers (C2M2VB). Jack felt that it was rare that the pioneers would come to him with any problems or struggles (C2M2VB). Raymond noted that "the way he did things with us, it's helpful and he assist us and his door is always open so I feel comfortable when I'm working with him" (C2M1&2P3VB). Mandla also shared that: "I can go to him (Jack)… I'm less scared to go to him than to go to (Mike). He's patient" (C2M1&2P2VB).

In 2015 Mandla said that he was a slow learner but that they had been patient with him (C2M1&2P2VB). Mandla said that he had learnt many new things over time and that most of what he had learnt would help him in his work and field. In particular, he noted that he helped Jack in the fieldwork and that's where he learnt. He also acknowledged that he had faced fears – he had never grown up playing in rivers and now he was in rivers in his work (C2M1&2P2VB).

Raymond said that he helped Jack with "everything" and that he was the only one who was running the Spring Health Index as his main project and groundwater (C2M1&2P3VB). While the mentors had voiced their frustrations, it was clear that Raymond and Mandla had "legitimate peripheral access". They had many "opportunities for engagement in practice" (Lave & Wenger, 1991, p. 91).

f) Continuous effort to mentor despite lack of reciprocation

Jack had learned that mentoring was a two-way street but early on he acknowledged that he tended to put in less effort when the pioneer/s were not making effort.

> I think that the mentoring side is a two-way street. You can pour your heart and soul into it. But if there's no reciprocation from the other side it gets very difficult. And you start putting in less effort, at times – from my side that's something I've had to work on.
>
> (C2M2VA)

It is not surprising that Jack grew frustrated when he felt that there was no reciprocation in effort. In order to negotiate meaning "continuous interaction, gradual achievement and give-and-take" is necessary (Wenger, 1998, p. 53). Despite the frustrating times with less effort, Jack was patient and continued to mentor the pioneers and this had applied value.

g) Mentoring requires understanding the pioneers' perceptions of processes and concepts

Early in the research Jack was already thinking and reflecting deeply on the pioneers' learning and mentoring:

> It's made me think about things in slightly different ways. Because the way I understand things is not necessarily the way other people understand things. So I've had to try and work out how they would understand and then cater my explanation to that, so for certain things I've had to get a deeper understanding of processes or concepts so that I can rework it or reword it to the appropriate structure for the other person to understand.
>
> (C2M2VA)

Wenger (1998 p. 53) explained that in order to negotiate meaning there must be engagement with "a multiplicity of perspectives" as well as "the production of a new resolution to the convergence of these perspectives". By trying to understand the pioneers' perspectives and modifying or deepening his own perspective he was able to rework something new where their perspectives would converge. When Jack tried to understand the pioneers' perspectives and reframe how he explained things in ways that the pioneers understand or interpret this has applied value in finding a convergence of perspectives.

h) Learning from peers (pioneers and interns)

Mandla had been assisted with Excel by another intern who was good with computers. Mandla said that this intern could teach well (C2M1&2P2VB). Raymond confirmed that he had also learnt from this intern: “I asked (intern): I’m failing here can you show me direction and he helped me and said I can go this way or that way” (C2M1&2P3VB). I had observed that Raymond had also been helping Mandla in the office and that they spent time discussing their work (Site visit C2). Lave and Wenger (1991, p. 93) highlighted that in studies of apprenticeship, “opportunities for learning are … given structure by work practices instead of strongly asymmetrical master-apprentice relations”. The pioneers would have ample opportunity within a highly efficient consultancy with busy mentors to have spaces “to configure their own learning” with other pioneers and interns. Lave and Wenger (1991, p. 93) referred to these spaces as spaces of “benign community neglect”. Mandla had noted early in the research that he had learned to work with the other pioneers “as I am not afraid to ask them questions when I don’t understand things at work” (C2M1&2P2Q). The relationships between the pioneers/intern were relaxed and free in comparison with what Lave and Wenger (1991) described as a possibly hierarchical, more distant and respectful relationship (of the mentor-pioneer). Lave and Wenger (1991, p. 93) stated that “apprentices learn mostly in relation with other apprentices” and “where the circulation of knowledge spreads among peers is possible, its spreads exceedingly rapidly and effectively”. I observed that the pioneers shared a fairly isolated office downstairs from the other staff (Site visit C2). This space would enable ample opportunity for the pioneers to learn and discuss freely. The applied value of this peer learning was that it enables social participation.

Figure 65: Mandla and Raymond discussing their work

4.3.2.4 Learning activities indicating realized value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

The 199rganiza value of the mentoring activities related to what was ultimately achieved in the process.

a) Pioneer found permanent employment

Fairly early on, before my first site visit to the 199rganization, Anele managed to secure a permanent job with an environmental consultancy closer to her home in Polokwane (C2M2VA). Jack said that if Raymond was able to stay longer and get the skills he needed, he would probably be able to secure a Junior Consultant job with the 199rganization (C2M2VB).

b) Pioneer was a competent employee in her new job

Anele shared how the time with the 199rganization had provided a "significant contribution" to her competence in her new job:

> I became more efficient with the time given for a task. I was able to understand the work being done more clearly since I knew the methods. I am now a better and efficient employee that is able to do the work to completion, able to report and do so within deadlines. I work for a big company and turnover times are very important. I am to form part of a team and be able to contribute on a practical as well as conceptual level. (C2M1P1Q)

Anele achieved SASS 5 accreditation while at the 199rganization (C2QreportQ32014). The 199rganiza value was her competence in the workplace.

c) Pioneer applied for an overseas Master's scholarship and received it

Raymond had planned to do his Master's degree and then get a job (C2M1&23VB). He applied for an international scholarship and was granted this (C2M2VB, C2M1VB). The 199rganiza value was Raymond's further learning.

d) Pioneer 199rganiza he would like to study further in agriculture, the environment or ecology

Mandla shared his plans to study further. He wanted to study part-time, preferably in agriculture. Because of his exposure at the 199rganization he would consider a Master's in environment or ecology (C2M2P2VB). The 199rganiza value was Mandla's 199rganizatio of his career interest and further learning.

e) Pioneer was competent in water quality monitoring

Mandla shared that in his contract he is a Water Quality Specialist and stated that he helps with biomonitoring through SASS 5 and knew how to do Index of Habitats and Integrity (C2M1&2P2VB). Mandla's competence in the workplace skill was 200rganiza.

f) Pioneer taking initiative

Jack said: "It's good to see when something that I've shown them, they take hold of it and move forward with it". He acknowledged that Mandla had played a key role in isiZulu translation and discussions with communities and small-scale farmers and was taking initiative – "I'm proud of him for that". He said that previously Mandla had often tried to take initiative but had not managed to complete the task appropriately or listened to what he had been asked to do (C2M2VB). This workplace competence and independence had 200rganiza value and the mentor has a sense of pride in the pioneer.

g) The pioneers were helpful to the 200rganization

Early in the research Jack said that personal and professional growth was important to the 200rganization and so Groen Sebenza was contributing to the 200rganization's growth and that of the pioneers. While the pioneers' growth may be slower than other employees, "the job is getting done to a suitable standard" (C2M2VA). In 2015, Jack again said that it was useful placing the pioneers. They were able to undertake time-consuming tasks that staff struggle to find people to do or that forms a base for their more 200rganizatio work. He said that if there was another opportunity to take on more pioneers, they would participate (C2M2VB). Mike acknowledged that some of the pioneers "who stepped up, that's been useful to us" (C2M1VB). However, Mike stated in 2015 that: "We don't really need interns, I think socially it's the right thing to do" (C2M1VB).

h) Fewer and more qualified candidates would be better suited to the 200rganization

Early in the research Mike had 200rganiza that the 200rganization would work best with fewer top candidates – "we don't have the luxury for quantity" (C2M1VA). Mike felt that they would be better able to nurture pioneers to do good work who are the top candidates. They do not "have the latitude to try and fix the system" – the system that has constrained the pioneers who are not top candidates. He explained that the work that they do is "almost slightly too advanced and was not necessarily appropriated for where they were at because the gulf was too wide

from where they came, to connect with the stuff that we're expecting them to latch onto to carry them forward – it's too big a jump" (C2M1VB). Mandla stated the following "I've seen the challenges I've had to face at (201rganization), I can see that I was not quite ready for (201 rganization) so obviously I have to improve first before I can come back here" (C2M1&2P2VB). The 201rganiza value was found in the experience of mentoring overall meant that the 201rganization would change their selection process and would select fewer candidates and only top candidates in future.

4.3.2.5 Overall activities indicating the value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

A summary of mentoring activities for mentors Mike, Jack and pioneers Anele, Mandla and Raymond according to each value creation cycle is represented in Table 12 below.

Table 13: Mentoring activities for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

Immediate value (IV)	**Potential value (PV)**	**Applied value (AV)**	**Realised value (RV)**
1. Rigorous pioneer selection process 2. Dedicated pioneer coordinator in the beginning 3. Checking in on personal motivation 4. Induction of pioneers to work 5. Writing and mentor reviewing reports 6. Fieldwork practices and tools 7. Pioneer training (GIS, scientific writing) 8. Professional work setting	1. Pioneers selected for essential workplace skills 2. Opportunities for pioneers who took initiative 3. Networking opportunities provided 4. Induction events introduced essential workplace skills & orientation 5. Recognising the need for scientific writing skills development through selection process and performance evaluation and providing training opportunities for learning the skill 6. Questioning the pioneers about workplace tasks and knowledge for understanding 7. Explanation of the fieldwork process by the pioneers	1. Mentor guides pioneers to do tasks themselves, with repeated guidance, examples and feedback – to a point 2. Mentor providing increasing responsibility to the pioneers 3. Mentor takes time to work with pioneers 4. Pioneers only connecting with the mentor and not fitting in with other staff in the 201rganization 5. Mentor spending time in practice with pioneers 6. Continuous effort to mentor despite lack of reciprocation 7. Mentoring requires understanding the pioneers' perceptions of processes and concepts 8. Learning from peers (pioneers and interns)	1. Pioneer found permanent employment 2. Pioneer was a competent employee in her new job 3. Pioneer applied for an overseas Master's scholarship and received it 4. Pioneer 201rganiza he would like to study further in agriculture, the environment or ecology 5. Pioneer was competent in water quality monitoring 6. Pioneer taking initiative 7. Pioneers were helpful to the 201rganization 8. Fewer and more qualified candidates would

	8. Recognising difficulties and areas of improvement 9. Useful employability activities for pioneers established through SANBI mentoring support workshop 10. Pioneer showing interest in new area of work 11. Pioneers wanting to help their communities 12. Pioneer able to discuss struggles with mentor		be better suited to the 202rganization

Table 13 of mentoring activities for each value creation cycle, was further developed to present the essential findings emerging from the data in Figure 66 of immediate, potential, applied and 202rganiza value of the mentoring activities. Certain factors which emerged as possibly having enabling value were noted in Figure 66, to be further expanded in Chapter 5.

4.3.2.6 Indicators of the value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

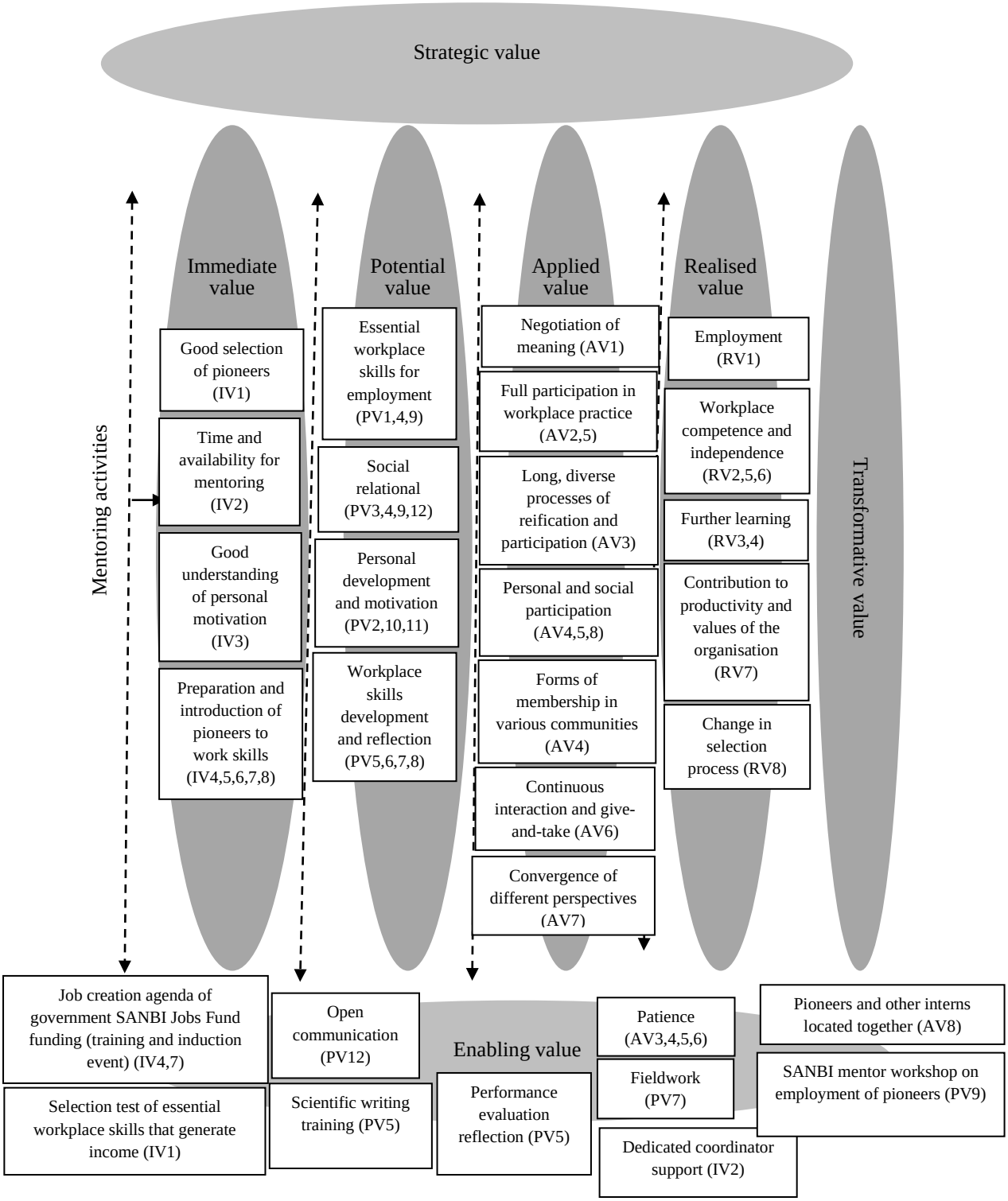


Figure 66: Overview of indicators of the value of mentoring for mentors Mike, Jack and pioneers Anele, Mandla and Raymond

A mentoring value creation trajectory for mentors Mike, Jack and pioneers Anele, Mandla and Raymond is presented in Figure 67.

4.3.2.7 Mentoring value creation trajectory for mentors Mike and Jack with pioneers Anele, Mandla and Raymond

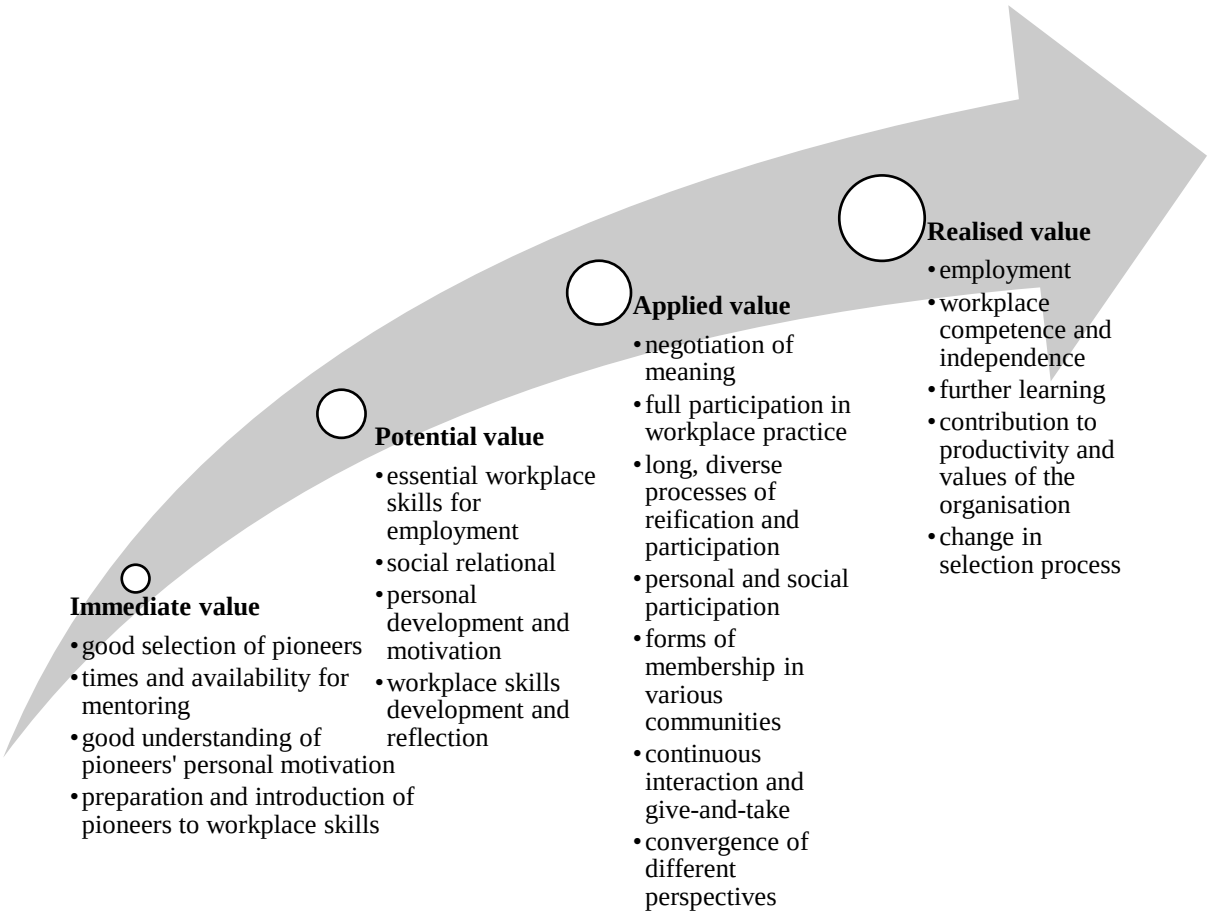


Figure 67: Mentoring value creation trajectory for mentors Mike and Jack with pioneers Anele, Mandla and Raymond

The useful representation of the mentoring value creation trajectory for mentor Mike, Jack and pioneers Anele, Mandla and Raymond in Figure 67 was used as part of the feedback of the findings of the research to the company as strategic value in Chapter 6.

4.4 Conclusion

Mentoring as a value-creating proposition in the case study environmental organisations has been described in this chapter. The findings of immediate, potential, applied and realised value of mentoring for each mentor and their pioneer/s was discussed and presented as mentoring activities, indicators of social learning value creation and trajectories of social learning value creation. It is important to note that during analysis of the data presented in Chapter 4 certain

challenges of mentoring were identified, these challenges of mentoring are explored in more depth as the factors that constrain the value creation possibilities and are discussed comprehensively in Chapters 5 and 6.

During the finalisation of this thesis at the end of 2020, Etienne and Beverly Wenger-Trayner published a book entitled *Learning to make a difference: Value creation in social learning spaces* which required consideration in the thesis. Wenger-Trayner and Wenger-Trayner (2020) described the focus of the book being social learning as engagement with others. The concept of social learning spaces rather than only social learning in communities of practice is introduced to account for diverse contexts and structures. This concept of social learning spaces was not explored in the research and communities of practice was suitable to account for the social learning taking place between mentors and pioneers in the case study organisations through mentoring and their shared workplace practices in Chapter 4. Wenger-Trayner and Wenger-Trayner (2020, p. 61) expanded on their explanation of learning value creation with four social learning modes:

- generating value;
- translating value into action;
- framing learning; and
- evaluating.

Chapter 4 is an exploration of how value was generated through mentoring in the organisations. Of relevance to the research is Wenger-Trayner and Wenger-Trayner (2020)'s expansion of these learning modes to explore agency. Consequently, Wenger-Trayner and Wenger-Trayner's (2020) explanations of value creation, agency and social learning were considered in Chapter 5 and 6. As discussed in Chapter 2, Etienne Wenger-Trayner's earlier work is developed from Giddens' conceptualisation of structure and agency. My research has taken a social realist perspective and views this conceptualisation as conflationist, wherein the parts (structure and culture) and the people (agency) are bound. As already discussed, separating structure and agency allowed me to identify when agents are able to act to bring about change (Archer, 1995). Wenger-Trayner and Wenger-Trayner (2020) use the value creation framework to assess transformative and enabling value through social learning and while the framework may be able to identify if change has happened and what enabled the change, I again questioned whether the explanation of how change has taken place through social learning was sufficient.

Thus, the transformative and enabling value of mentoring in the case study environmental organisations will be presented in Chapter 5 with additional reflections on the framework and conceptualisation of agency, transformative and enabling value of Wenger-Trayner and Wenger-Trayner (2020), together with a social realist interpretation through the findings of structural, cultural, and agentive elaboration.

CHAPTER 5:
THE TRANSFORMATIVE AND ENABLING VALUE OF MENTORING IN ENVIRONMENTAL ORGANISATIONS IN SOUTH AFRICA

5.1 Introduction

In this chapter the transformative value of mentoring is presented together with the enabling value of mentoring using the value creation framework of Wenger-Trayner and Wenger-Trayner (2014) as described in section 3.2.1. Enriching this framing, the enabling value of mentoring is presented as enabling and constraining factors using emergent properties of Archer (1995) (sections 2.7, 3.2.2 and 3.6). These enabling and constraining factors help to explain how transformation took place. Wenger-Trayner and Wenger-Trayner at the end of 2020, outlined some advancements in the value creation framework that require consideration. Wenger-Trayner and Wenger-Trayner (2020) acknowledged that the value creation framework provides a way to represent the process of value creation, but does not prescribe what is considered value; it is the research participants' narratives that are represented. This affirms its use as a suitable methodological, theoretical and analytical framework as established through immanent critique in Chapter 2 (section 2.4.3) to explain how learning is taking place through value creation narratives.

Wenger-Trayner and Wenger-Trayner (2020, p. 119) defined the transformative value of mentoring as the change that participants experience and whether this change has broader effects: "not only in the context of the difference they are trying to make but also in terms of their own personal trajectory and how they interact with the world more generally". In this recent work, transformative value is now divided into internal and external transformative value and both the positive and negative value created, is explored. Internal transformative value is explained as transformation within, for example, the mentors and pioneers individually, cognitively and/or as a group. External transformative value is explained as transformation outside of this community of practice in the organisation and possibly the biodiversity sector and beyond, for example. Wenger-Trayner and Wenger-Trayner (2020) also introduced positive and negative value created within the internal and external dimensions of enabling value. An example of positive internal enabling value would concern participants such as the pioneers and mentor inside the community of practice being proactive in their learning. An example of positive external enabling value could be the mentoring support and resources provided by SANBI of section 1.5.2.3 (Wenger-Trayner & Wenger-Trayner, 2020, p. 98).

These recent developments are relevant for research that, in this case, is seeking to understand the factors that enable (positive) or constrain (negative) the value creation possibilities of mentoring for organisations in the environmental sector. However, I will argue that the use of a social realist morphogenetic framework in the research provides a deeper, ontologically sound alternative for understanding the structural, cultural and agentive factors that enable or constrain the value creation possibilities of mentoring for organisations in the environmental sector.

Here, a focus on agency in the recent work of Wenger-Trayner and Wenger-Trayner (2020) is noted. Wenger-Trayner and Wenger-Trayner (2020, p. 43) described learning as "the experience of agency and meaningfulness" and say that agency is central (not explained in such depth in previous value creation framework literature). Their consideration of the capability approach of Amartya Sen (1984) highlights how individuals should be able to act on what is important to them with a focus on "agency as the very essence of development" (Wenger-Trayner & Wenger-Trayner (2020, p. 56). Wenger-Trayner and Wenger-Trayner (2020, p. 68) stated that analysing agency "is an area that still needs further work in social learning theory, rather than a repudiation of the concept's relevance". The following discussion will interrogate agency in relation to structure and culture and what this means for social learning theory, illustrated clearly through the findings of the research presented in this chapter.

5.1.1 A social realist approach to examining transformative and enabling value

Wenger-Trayner and Wenger-Trayner (2020)'srecent work confirms that their view of structure and agency is underlaboured by Giddens and structuration theory, examined in depth through the process of immanent critique in Chapter 2 (section 2.5).

Wenger-Trayner and Wenger-Trayner (2020 p. 57) provided an interpretation of Archer's (1995) critique of structuration theory as she: "objects to viewing (agency) as symmetrical and argues that social structure exists over a longer timescale than agency and thus tends to have a more pervasive influence". Archer, as elaborated earlier (of section 2.7) has the view that agency is conditioned but is not determined by social structure. Social structure is the result of social interactions that take place through our agency and as she stated in her early work: "structural and cultural properties only emerge through the activities of people" (Archer, 2000, p. 307).

Indeed, Archer has critiqued Giddens for structure and agency being "compacted together inseparably" (Archer, 1995, p. 323) or "symmetrical" as stated above (Wenger-Trayner & Wenger-Trayner, 2020, p. 57). Archer highlighted that it is necessary to separate structure and agency in order to identify when agents are able to act to bring about change and she used emergent properties to do so (Archer, 1995). Cruickshank (2007, p. 70) explained that sociology according to Giddens argues that structures provide the conditions that enable or constrain agency and can be shaped by agency. They are the medium and the outcome of agency. This is the duality of structure, where structure and agency can only be defined in relation to each other. Sociology according to Giddens fails to explain how agents may actually change the rules or structures themselves (section 2.7).

Archer, as explained earlier (of section 2.7), viewed structure as existing over long periods of time as an interplay between structure and agency over time. The focus on structure is not as a "more pervasive influence" or as having a "longer timescale" as described by Wenger-Trayner and Wenger-Trayner (2020 p. 57). Wenger-Trayner and Wenger-Trayner (2020) are correct in their assessments that in the area of social learning, agency has "lived ability to learn and act on learning" and from Archer's perspective this takes place as an interplay between structure, culture and agency over time. Lindley and Lotz-Sisitka (2019, p. 27) acknowledged that Archer's use of the morphogenetic framework is to "describe how change has happened over a period of time in the past by looking at existing practice". According to Cruickshank (2007), existing practices reveal agency and the actions of people are mediated by structures, which they change or maintain through practice. However, Archer "does not work on how the social process of learning can be proactively used as mobilizers of potential morphogenesis" (Lindley & Lotz-Sisitka, 2019, p. 27). The use of social learning theorising of Legitimate Peripheral Participation and Communities of Practice formation through the value creation framework is therefore vital in explaining mentoring and the strength of Archer's theorising is that it is able to account for and explain the interplay of structure, culture and agency and agency to learn and act, through emergent properties and the separation of structure and agency. Emergent properties are not used to conceptualise structure, culture and agency in the central conflation theorising of Giddens. Emergent properties are useful for explaining the factors that would enable or constrain the value creation possibilities of mentoring in environmental organisations. They would also be useful in Wenger-Trayner and Wenger-Trayner's (2020) understanding of agency in social learning theory:

> Making a difference presumes the capability to act. Value creation itself is an act. But the grip of history in structuring it brings up questions about agency in social learning spaces. If our value judgements are shaped by broad historical forces and cultural practices, is there a place for us as persons capable of decision and action to make a difference? Is there a place for agency in social learning theory?
>
> (p. 55)

Wenger-Trayner and Wenger-Trayner (2020) claimed that "learning is shaped by its specific historical context" and "social learning shapes history". Without analytical dualism and emergent properties, the ability of the value creation framework to account for this learning beyond the present tense and over time is somewhat flawed. In response to the evolution of Wenger-Trayner and Wenger-Trayner's (2020) conceptualising of transformative value, enabling value and agency, I reintroduce the use of Archer's morphogenetic framework in the research as an improvement to the value creation framework, that has "firm ontological grounding and explanatory profitability" (Archer, 1995, p.192) and avoids the limited time span of conflationary theories. The table below summarises the recent evolution of enabling and transformative value, highlighting the alternative approach of the morphogenetic framework and how it adequately addresses these additions. External value is an approach to consider the external (to the person's) structural and cultural factors that enable (as positive) or constrain (as negative) a person's agency. Internal value is an approach to explore the internal personal emergent properties and in the case of transformative value, morphogenesis of the primary agent into a corporate agent (if positive) (see section 3.2.2). Understanding external and internal value would require a separation of the parts (structural emergent properties (SEPs) and cultural emergent properties (CEPs)) and people (personal emergent properties (PEPs)) and thus the morphogenetic framework provides a methodology with ontologically robust foundations for the purpose of the research, avoiding conflation of structure and agency.

Table 14: The value creation framework (Wenger-Trayner & Wenger-Trayner, 2020) compared with the morphogenetic framework (Archer, 1995)

Value creation framework (Wenger-Trayner & Wenger-Trayner, 2020)	**Morphogenetic framework (Archer, 1995)**
External enabling positive value	Enabling SEPs and CEPs
External enabling negative value	Constraining SEPs and CEPs
Internal enabling positive value	Enabling PEPs
Internal enabling negative value	Constraining PEPs
External transformative negative value	Constraining SEPs and CEPs
External transformative positive value	Enabling SEPs and CEPs
Internal transformative negative value	Primary agent (Morphostasis)
Internal transformative positive value	Primary to Corporate agent (Morphogenesis)

The morphogenetic framework is also preferred as it avoids the limited time span of conflationary theories. As described in Chapter 3 (section 3.2.2) and above in using Archer's (1995) analytical dualism, there are three different phases when considering the morphogenesis/stasis of social structure, culture and agency described as T1-T4. The phases are structural and cultural conditioning (T1), socio-cultural interaction (T2-T3) and the elaboration or reproduction of structure, culture and agency (T4). In order to develop an understanding of the transformative and enabling value of mentoring in the organisations, the use of the morphogenetic framework enabled me to analyse the interplay of emergent properties of social structures, cultural systems and agents and the enabling or constraining powers that emerge over time. This examination would in fact be limited to the present tense if only using the value creation framework and as such could not reveal the transformative value of mentoring and the social change that has occurred. In Chapter 5 transformative value will be explored through summaries of how the three cycles of structure, culture and agency interact, interplay and relate to each other (Figures 68 below and 69 in section 5.3). The three cycles are separated analytically, following Archer's (1995) analytical dualism and then combined in the same T1-T4 phase for each organisation.

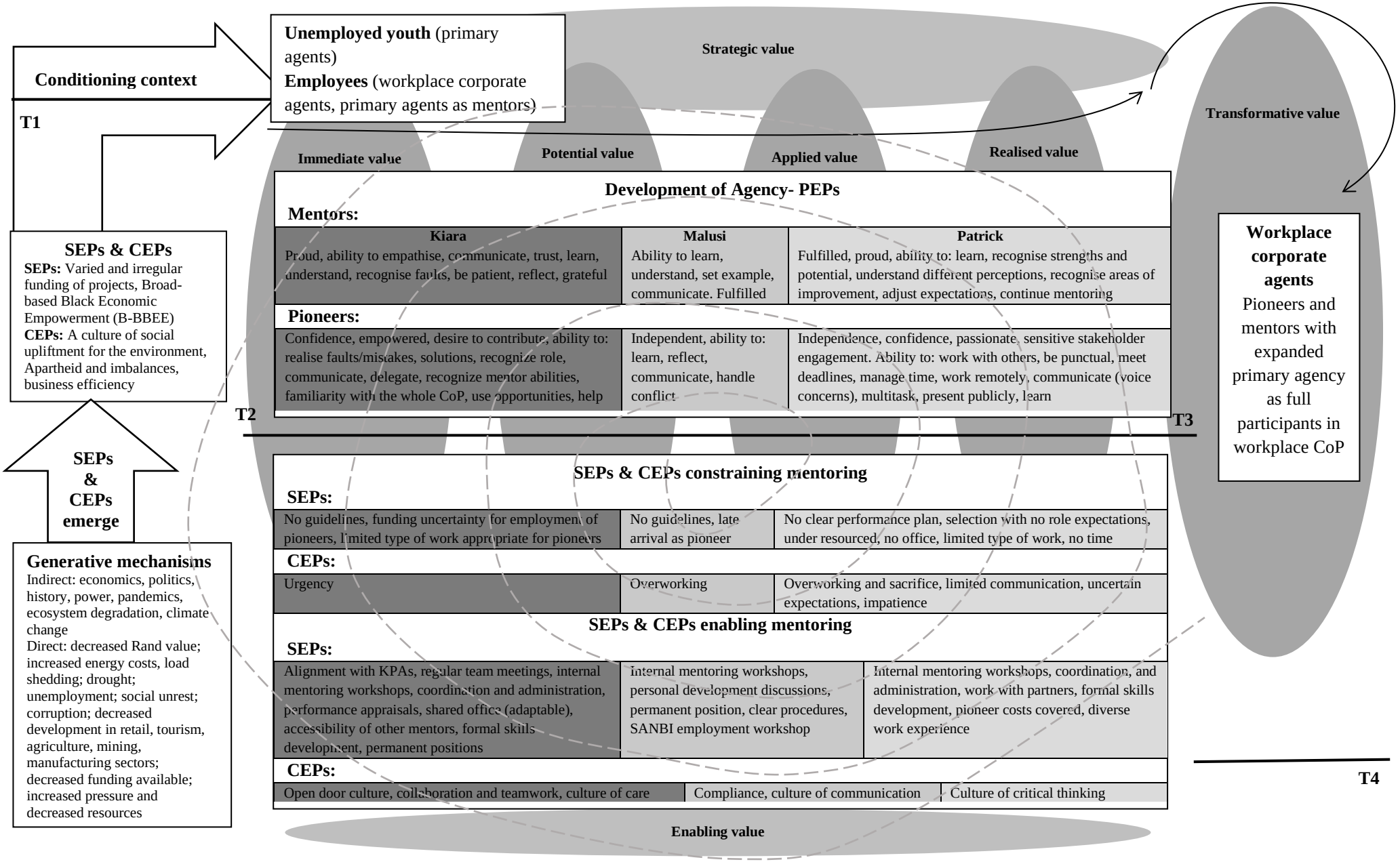


Figure 68: Overview of structural cultural and agential elaboration and reproduction (T4) and transformative value of mentoring for an environmental NPO

5.2 Transformative value of mentoring in an environmental NPO

5.2.1 Structural and cultural conditioning in an environmental NPO

In Chapter 3 (section 3.2.2) I noted (drawing on Archer's (1995) analytical dualism) that generative mechanisms located in the realm of the Real give rise to the structural emergent properties (SEPs) and cultural emergent properties (CEPs) of mentoring in an environmental NPO at T1. The mentors, pioneers and their actions and agency, as personal emergent properties (PEPs), shaped and were shaped by the context of mentoring in the environmental NPO, within which there are SEPs and CEPs.

5.2.2 Generative mechanisms giving rise to structural and cultural emergent properties in an environmental NPO

I considered the context of mentoring through retroductive analysis (section 3.6) of the contextual profiling interviews, first site visit observations, documents, online information, and my own knowledge of the NPO through the work that I have done with them historically (section 4.2.1). Through retroduction, I could explain mentoring activities at the level of the Empirical and Actual by identifying the causal mechanisms at the level of the Real (section 2.6; Bhaskar, 1978). And thus, I sought to identify what was enabling and constraining the value creating activities of mentoring in the NPO. These findings are discussed in the following sections 5.2.3, 5.2.4 and 5.2.5.

It Is important to acknowledge that the NPO is affected by broader issues of economics, politics, history, power, pandemics, ecosystem degradation and even climate change. Some of the more direct generative mechanisms impacting the NPO and its mentoring activities were that the NPO undertakes its projects through project grant funding, donations and tourism. These projects are focused on wildlife economy, ecological restoration and sustainable communities. International and national donor organisations provide funding as well as companies from a range of different sectors including tourism, agriculture, mining, banking, retail and manufacturing industries. These sectors have faced various economic impacts due to the decreasing Rand value; increasing energy costs and load shedding; water scarcity due to drought; unemployment and poverty and social unrest and corruption. The cost of these pressures decreases the development and risk of these sectors and thus the availability of funding for the NPO. In a changing and decreasing funding environment, the NPO was working

under pressure with somewhat limited resources. These generative mechanisms are summarised and introduced in the left-hand side of Figure 68 further on in section 5.2.10.

The following structural emergent properties (SEPs) and cultural emergent properties (CEPs) emerged from these generative mechanisms and it is this context that influenced mentoring activities and agency of both the mentors and pioneers.

5.2.3 Structural emergent properties conditioning mentoring in an environmental NPO at T1

The SEPS that emerged from the above-mentioned generative mechanisms in section 5.2.2 and which conditioned the mentors and pioneers are described as follows and are214rganizatid and introduced in the left-hand side of Figure 68 further on in section 5.2.10:

5.2.3.1 Varied and irregular funding of projects

The NPO's projects were funded by a range of both private sector funders from a range of sectors and international and local donor organisations. The duration of this funding would vary and there may be periods of limited funding availability (section 4.2.1). External to the NPO is the nature of funding Groen Sebenza through SANBI. As indicated in section 1.4, Groen Sebenza emerged out of National Treasury's Jobs Fund (R9billion) announced by the President at the time and launched by the Minister of Finance in 2011 in response to unemployment rates. The nature of this funding was large amounts, rushed disbursement with short turnaround time for development and implementation by SANBI (DFContext). The impact of this on the start of Groen Sebenza – SANBI management capacity, selection and placement of pioneers and guidance – was experienced by the NPO, as discussed in section 4.2.1.

5.2.3.2 Broad-based Black Economic Empowerment (B-BBEE)

The Broad-Based Black Economic Empowerment (B-BBEE) programme was launched by the South African government in 2004 to transform the economy following the resultant inequalities of Apartheid, with Codes of Good Practice gazetted in February 2007 (Republic of South Africa, 2004, 2007). It provides a legislative framework for the transformation of South Afric''s economy. B-BBEE influenced the NPO in that it was a motivator for

transformation within the NPO which had predominantly white employees in senior management positions (section 4.2.1).

5.2.4 Cultural emergent properties and powers conditioning mentoring in an environmental NPO at T1

The CEPS that emerged from the above-mentioned generative mechanisms in section 5.2.2 and conditioned the mentors and pioneers are described as follows and are summarised and introduced in the left-hand side of Figure 68 further on in section 5.2.10. These CEPs arising from generative mechanisms provide the conditioning context for social-cultural and group interaction in the environmental NPO at T2-T3.

5.2.4.1 A culture of social upliftment for the environment

The NPO was established in response to many of the generative mechanisms mentioned such as unemployment, climate change and ecosystem degradation. It was evident that there was a culture of social upliftment and development for the environment. Early on mentor Kiara said that they were "building peoples' ability to contribute to the environment" and mentor Malusi said that "we are trying to inspire people to lead the values of sustainability, to model it and then mentor people" (C1M2VA, C1M1VA).

5.2.4.2 Apartheid and racial imbalances

South Africa's history of colonialism and Apartheid continues to influence most aspects of society in the country. Apartheid drove a division between white people and people of colour, especially black people, and led to deeply entrenched and harmful oppression of black people. The legacy of apartheid has an influence on organisations including the NPO. Differences in quality of education, financial resources, networks, power, language and many other factors exist for black people and white people in the NPO and influence various aspects of the organisation (section 4.2.1, Chapter 1, section 1.3).

5.2.4.3 Business efficiency

The generative mechanisms that created the varied and irregular funding of projects mentioned above, also instilled a discourse and culture of operation of efficiency in the NPO. The mentors

described how busy they were and that part of the need for pioneers was the additional human resources for work that was available (section 4.2.1).

5.2.5 Primary and corporate agents at T1 in an environmental NPO

This section introduces the personal factors conditioning mentoring in the NPO. Through a social realist lens, the pioneers, as unemployed graduates, were exercising their primary agency of being unemployed and seeking work opportunities. The mentors in the NPO were participating fully in the workplace and exercising their corporate agency. The NPO and its mentors had committed to Groen Sebenza for the sake of transformation of the organisation and increasing the number of suitably skilled black managers (4.2.1). Through the social-cultural and group interaction examined in the next section, it is revealed how the corporate agents (mentors) further developed their corporate agency. The primary agents became corporate agents with workplace agency, but this is only examined at T4.

5.2.6 Social-cultural and group interaction in an environmental NPO (T2-T3)

The social-cultural and group interactions were explained in detail in Chapter 4. The overall activities indicating the value of mentoring for the mentors and pioneers are represented in sections 4.2.2.5, 4.2.3.5 and 4.2.4.5. These activities are further represented as overviews of indicators of the value of mentoring in sections 4.2.2.6, 4.2.3.6 and 4.2.4.6 and mentoring value creation trajectories for the mentors and pioneers in sections 4.2.2.7, 4.2.3.7 and 4.2.4.7. This formed layer 1 (see Table 7 in section 3.6) inductive analysis, with some degree of abduction. The findings of the retroductive analysis are represented in the next section where the constraining structural and cultural factors at Layer 2 and 3 (see Table 7 in section 3.6) are identified.

5.2.7 SEPs and CEPs constraining mentoring in an environmental NPO

The constraining SEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.2.2.5, 4.2.3.5 and 4.2.4.5) were identified and are described for each mentor and their pioneer/s in the sub-sections that follow.

5.2.7.1 Mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle constraining SEPs

Kiara said that there were no guidelines provided to the mentors from SANBI in the beginning when the pioneers first joined them (C1M1VA). She also described the uncertainty of longer-term funding to make the pioneers' positions permanent (C1M1VA). Kiara expressed frustration that at certain times there was not sufficient work that the pioneers were able to do as the type of work that she was busy with was not appropriate for the pioneers. There were limits to what type of work was available for the pioneers (C1M1VB).

5.2.7.2 Mentor Malusi and pioneers Penny and Nomsa constraining SEPs

Like Kiara, Malusi said that there were no guidelines for mentors from SANBI in the beginning (C1M2VA). His second pioneer Penny joined the NPO much later than the other pioneers and so experienced constraints in connecting with other pioneers (C1M2VB, C1M2P1VB).

5.2.7.3 Mentor Patrick and pioneers Sanele and Simo constraining SEPs

Sanele and Patrick noted that the pioneers (Sanele and Simo) did not have a clear performance plan or clear Key Performance Areas (C1M3P1VA, C1M3VA). Patrick indicated that the initial selection process of pioneers did not allow for specifying clear expectations of the roles of the pioneers (C1M3VA). Patrick and Sanele acknowledged that the organisation that they worked for was under resourced (C1M3VA, C1M3P1VA). The pioneers did not have an office space that they could use (C1M3VA). Initially the type of work that the pioneers were exposed to was limited to "reading and research" (C1M3VA, C1M3P1VB). The mentor expressed that he did not have sufficient time to be available to the pioneers (C1M3VB). The constraining SEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 further on in section 5.2.10. The constraining CEPs identified during T2 to T3 of the mentoring activities (4.2.2.5, 4.2.3.5 and 4.2.4.5) were as follows:

5.2.7.4 Mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle constraining CEPs

Kiara indicated that there was a culture of efficiency and urgency in the NPO which she adhered to and she felt that she was often too busy to have sufficient time to ensure that the pioneers were engaged in the meaningful work (C1M1VA). Zinhle agreed that they were often very busy with urgent deadlines (C1M1P4VB).

5.2.7.5 Mentor Malusi and pioneers Penny and Nomsa constraining CEPs

Malusi and Penny explained that they were overworked (C1M2VA, C1M2P1VB).

5.2.7.6 Mentor Patrick and pioneers Sanele and Simo constraining CEPs

Patrick said that there was a culture of overworking and sacrifice for the greater cause in the field of conservation historically (C1M3VA). Sanele explained that there was not a culture of completely open, continuous communication for regular planning, complaints and feedback (C1M3P1VA). There was a culture of uncertainty of expectations. Patrick explained that the pioneers seemed to have very different expectations of what was expected of them to what he expected of them (C1M3VA, B). A culture of efficiency existed for Patrick and was expressed through his intolerance of a lack of punctuality or efficiency on the part of the pioneers. Patrick has explained the consequences of the pioneers not being at meetings on time (C1M3VA). The constraining CEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 further on in section 5.2.10.

5.2.8 SEPs and CEPs enabling mentoring in an environmental NPO

The enabling SEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.2.2.5, 4.2.3.5 and 4.2.4.5) were identified and are described for each mentor and their pioneer/s in the sub-sections that follow.

5.2.8.1 Mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle enabling SEPs

Kiara explained that the pioneers' work was aligned to the mentors' Key Performance Areas, especially those with distinct portfolios like the grant administrators (C1M1VA). There were regular in-person team meetings, even for the pioneer who worked remotely (C1M1VA, C1M1P3VB, C1M1P4VB, C1M1Obs). The internal NPO mentoring workshop was mentioned as important by Kiara (C1M1VA). Having a coordinator and administrator to assist with the pioneers (C1M1VA, B) was also noted as important. Performance appraisals with the pioneers (C1M1VB) were a welcomed opportunity for mentoring. The pioneers were based in an office space together, which was also adaptable to their positions and personalities; for example, Musi received his own office when he was promoted and Philile was quite a bit older than the other pioneers and so she received her own space (C1M1VB). Access to other mentors for different

areas of guidance e.g. financial advice was encouraged (C1M1VB). The pioneers' skills development through formal training (e.g. Excel) and tertiary studies (C1M1P3VA, C1M1P3VB) was also in place. Permanent positions were established for the roles filled by the pioneers (C1M1VB).

5.2.8.2 Mentor Malusi and pioneers Penny and Nomsa enabling SEPs

The internal mentoring workshops were considered useful by Malusi (C1M2VA). He held regular meetings for focused check in and discussions (Malusi referred to these as "counselling sessions") and the development of personality profiles (C1M2VA). Malusi adhered to clear protocols and procedures as he wanted to set an example for the pioneers (C1M2VA). A permanent position was made available to fit the role filled by Penny (C1M2VB). The SANBI-led employment readiness workshop prepared Penny for finding a job (C1M2P1VB).

5.2.8.3 Mentor Patrick and pioneers Sanele and Simo enabling SEPs

As was mentioned by Kiara, the role of the coordinator (C1M3VA) and administrator assisted with the pioneers (C1M3VB). Like the other mentors Patrick considered the internal mentoring workshop important (C1M3VA). Patrick and pioneers confirmed that the projects that the pioneers were involved with allowed them to work closely with partner organisations (C1M3VA). The pioneers received additional skills development through their tertiary studies (C1M3VB). SANBI financially supported the pioneers with salaries and expenses and this was considered critical by Patrick (C1M3VB). Patrick provided the pioneers with diverse work experience (C1M3VB). The enabling SEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 further on in section 5.2.10. The enabling CEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.2.2.5, 4.2.3.5 and 4.2.4.5) were identified and are described for each mentor and their pioneer/s in the sub-sections that follow.

5.2.8.4 Mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle enabling CEPs

Kiara maintained an open-door culture (C1M1VB). A culture of collaboration and teamwork was evident, and the pioneers could work with different people on different projects (C1M1P4VB, C1M1VB). A culture of care was evident as the pioneers confirmed that Kiara

showed care and empathy for the pioneers personally and professionally (C1M1P4VB, C1M1VB).

5.2.8.5 Mentor Malusi and pioneers Penny and Nomsa enabling CEPs

Malusi explained how he maintained his compliance with procedure in order to set the example for the pioneers (C1M2VA). Malusi ensured that there was a culture of communication and feedback between him and the pioneers (C1M2VB).

5.2.8.6 Mentor Patrick and pioneers Sanele and Simo enabling CEPs

Patrick indicated that he maintained a culture of critical thinking (C1M3VB). The enabling CEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 further on in section 5.2.10.

5.2.9 Emergence of PEPs in an environmental NPO

The emergence of PEPs which signify the development of agency were identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.2.2.5, 4.2.3.5 and 4.2.4.5) and are listed for each mentor and their pioneer/s in the sub-sections that follow.

5.2.9.1 Mentor Kiara and pioneers Musi, Nonhle, Philile and Zinhle PEPs

- The pioneers developed confidence (C1M1P1VB, C1M1P1VB C1M1P2VA)
- Musi showed how he had developed the ability to realise his mistakes and come up with solutions (C1M1P1VB)
- Nonhle was able to220rganizate her role in the220rganizationn and the whole system (C1M1P2VA)
- Zinhle220rganizatid Kiara's ability to empathise (C1M1P4VB)
- Kiara acknowledged that Zinhle was able to work remotely, responsibly and independently (C1M1VB)
- The pioneers and mentor were able to communicate (C1M1VB, C1M1P2VB C1M1P3VB C1M1P4VB)
- Kiara was able to trust the pioneers (C1M1VB)
- The pioneers and mentor were willing to learn (C1M1P1VA)

- Nonhle was empowered (C1M1P1VA)
- Musi was able to delegate (C1M1P1VB)
- Kiara was grateful for the pioneers (C1M1P1VA)
- Kiara developed a desire to contribute and personal fulfillment (C1M1VB)
- Kiara was proud of the pioneers (C1M1P1VB)
- Kiara had patience and undertook careful reflection with the pioneers; she always had time for them (C1M1VB, C1M1P4VB)
- Zinhle was able to221rganizate her own faults (C1M1VB)
- Kiara was understanding (C1M1VB)
- Nonhle221rganizatid the leadership ability and work ethic of the mentor (C1M1P2VA)
- The pioneers were familiar with whole activity practice (C1M1P2VB, C1M1P3VB)
- Nonhle was willing to take on opportunities (C1M1P2VB)
- Zinhle was willing to help other pioneers (C1M1P4VB)

5.2.9.2 Mentor Malusi and pioneers Penny and Nomsa PEPs

- Malusi wanted to improve as a mentor and learn (C1M2VA)
- Penny was able to work independently (she would observe the work and then implement herself and also to travel long distances for work alone) (C1M2P1VB)
- Penny was eager to learn through further studies (C1M2P1VB)
- Penny was able to reflect (C1M2VA)
- Malusi was able to understand the pioneer (C1M2VA)
- Malusi was able to set the example of practice (C1M2VA)
- Malusi felt fulfilled (C1M2VA, C1M2VB)
- Malusi and Penny were able to communicate (C1M2VB)
- Penny was able to handle conflict (with external stakeholders) (C1M2P1VB)

5.2.9.3 Mentor Patrick and pioneers Sanele and Simo PEPs

- Sanele was able to work with others (C1M3P1VA)
- Sanele felt that he was punctual, able to manage his time and meet deadlines (C1M3P1VA)
- Patrick felt fulfilled and felt that he was contributing to the sector (C1M3VA)
- The pioneers were able to work remotely and independently (C1M3VB)

- The pioneers were able to communicate and voice their concerns (C1M3VB)
- Simo was able to multitask (C1M3P2VA)
- Simo was able to work with sensitive stakeholders (C1M3P2VA)
- Simo was able to work with partner organisations (C1M3P2VA)
- The pioneers were able to present publicly (C1M3P1Q)
- Patrick was able to understand pioneers' strengths and different perceptions (C1M3VB)
- The pioneers and mentor were able to 222 rganizate their own learning (C1M3VB, C1M3P1VB)
- The pioneers developed confidence (C1M3P1VA)
- The pioneers and mentor were able to adjust their expectations (C1M3VA, B, C1M3P1VB)
- Patrick developed a desire to continue mentoring (C1M3VB)
- Patrick was able to222rganizate the potential in the pioneers (C1M3VB)
- Patrick was proud of the pioneers (C1M3VB)
- Patrick was able to222rganizate areas for improvement (such as an office base, larger group of pioneers, improved selection process with clear expectations) (C1M3VB)

The emergence of PEPs as identified during T2 to T3 was summarised and introduced in the top centre of Figure 68 in the next section. This section uses the above findings to explain the overall structural cultural and agential elaboration and reproduction at (T4) and thus the transformative value of mentoring for the environmental NPO.

5.2.10 Structural cultural and agential elaboration and reproduction (T4) and transformative value of mentoring for an environmental NPO

Using the morphogenetic framework, I will explain change over time as transformative value of mentoring for the NPO. Figure 68 provides an overview of how the structural, cultural and agential elaboration and reproduction came about in the NPO using the previous section's analysis and findings. At T1 the conditioning context was introduced (sections 5.2.1-5.2.5) including generative mechanisms that are indirect (economics, politics, history, power, pandemics, ecosystem degradation, climate change).Direct generative mechanisms include:decreased Rand value; increased energy costs; load shedding; drought; unemployment; social unrest; corruption; decreased development in retail, tourism, agriculture, mining, manufacturing sectors; decreased funding available; increased pressure and decreased resources. From these generative mechanisms emerged structural and cultural emergent

properties in the NPO. The SEPs identified included: varied and irregular funding of projects and Broad-based Black Economic Empowerment (B-BBEE). The CEPs included a culture of social upliftment for the environment, Apartheid and racial imbalances and business efficiency. At T1, when considering agency, the pioneers were at this stage unemployed youth entering Groen Sebenza as primary agents and the mentors were employees with corporate agency in the workplace and primary agency as mentors in the workplace.

During T2-T3 the value creation analysis of immediate, potential, applied,223rganizad value in Chapter 4 provided explanation of the social-cultural and group interaction as mentoring in the NPO. In Figure 68 the constraining and enabling SEPs and CEPs identified during T2 to T3 of the mentoring activities from Chapter 4 are introduced for each mentor and their pioneer/s. The explanation of enabling value is thus examined more deeply and thoroughly in comparison with the factors of enabling value depicted in Figures 48, 50 and 52 in Chapter 4.

In Figure 68 the emergence of PEPs identified during T2 to T3 through the mentoring activities from Chapter 4 are introduced for each mentor and their pioneer/s. It is through the interaction of these SEPs, CEPs and PEPs that structural cultural and agential elaboration and the transformative value of mentoring for the NPO at T4 is possible. The mentors expanded their primary agency as they became mentors, beyond their former corporate workplace agency (Archer, 1995). The pioneers were able to fully participate in the workplace CoP (Wenger, 1998; Lave & Wenger, 1991), expand their primary agency and become corporate agents in the workplace like their mentors. This is the transformative value of mentoring.

In the case of Kiara and her pioneers, there was an interplay between a culture of care, open door culture, collaboration and teamwork and structural (alignment with her KPAs; regular team meetings; internal mentoring workshops; coordination and administration support; performance appraisals; shared office space (adaptable); accessibility of other mentors; formal skills development and permanent positions) and agentive factors. Kiara felt proud of the pioneers, she had the ability to empathise, communicate, trust, learn, understand,223rganizate faults, be patient, reflect and be grateful. The pioneers (to varying degrees outlined above) during the social-cultural and group interaction as mentoring developed their confidence; became empowered; developed a desire to contribute and developed the ability to: realise their faults/mistakes, solutions, recognize their role, communicate, delegate,223rganizatid Kiara's abilities, became familiar with the whole CoP, used opportunities, and helped each other.

In the case of Malusi and his pioneers, a culture of compliance and communication together with various structural factors (the internal mentoring workshops, personal development discussions, permanent positions being made available, clear procedures, SANBI employment workshop) interplayed with the mentor's ability to learn, understand, set the example and communicate. Penny felt fulfilled, showed independence and developed her ability to learn, reflect, communicate and handle conflict.

In the case of Patrick and his pioneers, a culture of critical thinking together with the structural factors (internal mentoring workshops, coordination, administration, working with partners, formal skills development, the pioneers' costs being covered and diverse work experience) interplayed with Patrick feeling fulfilled, proud and developed his ability to learn,224rganizate strengths and potential, understand different perceptions,224rganizate areas of improvement, adjust expectations and ultimately want to continue mentoring. The pioneers developed an independence, confidence, became more passionate and sensitive in stakeholder engagement. They developed the ability to: work with others, be punctual, meet deadlines, manage time, work remotely, communicate, multitask, present publicly and learn.

There were constraining factors for each: Patrick and his pioneers faced cultural factors of overwork, sacrifice, limited communication, uncertain expectations, impatience and structural factors of no clear performance plans, a selection process with no role expectations, being under resourced, having no office, limited appropriate types of work and no time. Malusi and his pioneers were constrained by a culture of overworking and structural factors of no guidelines and the late arrival of Penny. In the case of Kiara and pioneers, the lack of guidelines, funding uncertainty for employment of pioneers and the limited type of work appropriate for pioneers as well as a culture of urgency were constraining factors.

The emergence of factors from generative mechanisms, the mentoring interactions and the further emergence of structural, cultural and agentive factors (that result in the transformative value of the pioneers becoming full participants in the CoP and workplace corporate agents) is not linear. It is not evident that factor A (e.g. compliance) led to factor B (e.g. confidence) led to C (e.g. employment) and factor D (e.g. no office) constrained this elaboration. It was the messy, complex interplay of all these factors during the mentoring 224rganizatid in Figure 67) from which morphogenesis occurred as structural, cultural and agential elaboration.

In 2019 the Executive Director Ralph confirmed this structural cultural and agential elaboration and morphogenesis. When he was asked to reflect on what he thought of the entire experience of Groen Sebenza for the NPO:

> I loved it. We had large scale projects where these (pioneers) fitted in nicely and were viewed by the225rganizationn as valuable contributors. We became dependent on them. That's why we employed them afterwards. It wasn't even a question.
>
> (C1EVC)

Ralph confirmed the employment of all of the pioneers interviewed either within the NPO or in other organisations:

- Musi finished his Master's degree and is managing the entire project with (project name).
- Nonhle is running the (project name) project, the payroll everything. She's very good.
- Unfortunately, Zinhle left, she was employed running the entire (location name) branch.
- Sanele who was with Patrick is the social facilitator for the whole entire (project name) project, third year in a row.

Ralph mentioned a few other pioneers (not interviewed) who were employed successfully. He described how they had redone their organogram to include the pioneers who were "elevated into strategic manager positions" as a first layer of management positions so that the pioneers can eventually become senior managers (C1EVC). Ralph reiterated that "there was a deliberate decision by the 225 rganizationn to use the Groen Sebenza for long term transformation purposes" (C1EVC). The mentoring interactions as an opportunity to learn and share their experience was enjoyed by the mentors and further internship programmes have been undertaken by the NPO. Finally, Ralph stated that "there wasn't a structured set-up for mentoring before. There is probably now more of a culture of it" (C1EVC). Structural cultural and agential elaboration and the transformative value of mentoring was evident.

5.3 Transformative value of mentoring in an environmental consulting company

5.3.1 Structural and cultural conditioning in the environmental consulting company

As mentioned previously, generative mechanisms located in the realm of the Real gave rise to the SEPs and CEPs of mentoring in an environmental consulting company at T1. The mentors, pioneers and their actions and agency, as PEPs, shaped and were shaped by the context of mentoring in the environmental NPO, within which there are SEPs and CEPs (see Figure 69).

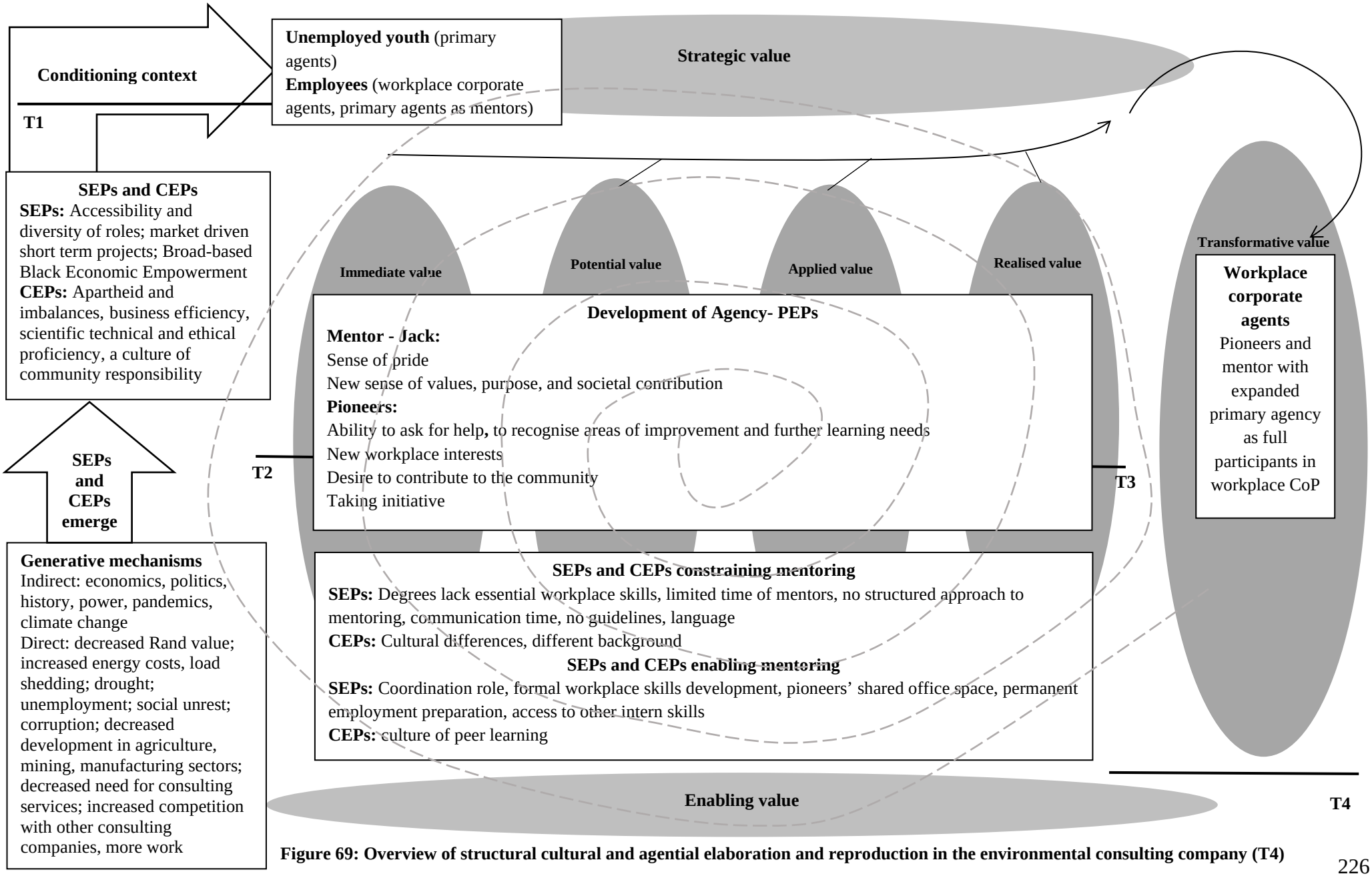


Figure 69: Overview of structural cultural and agential elaboration and reproduction in the environmental consulting company (T4)

5.3.2 Generative mechanisms giving rise to structural and cultural emergent properties in the environmental consulting company

I considered the context of mentoring through retroductive analysis (section 3.6) of the contextual profiling interviews, first site visit observations, documents, online information, and my own knowledge of the company through the work that I have done with them historically and more recently (section 4.3.1). Through retroduction I could explain mentoring activities at the level of the Empirical and Actual by identifying the causal mechanisms at the level of the Real (section 2.6, Bhaskar 1978). And thus, I sought to identify what was enabling and constraining the value creating activities of mentoring in the company. These findings are discussed in the following sections 5.3.3, 5.3.4 and 5.3.5.

It is important to acknowledge that the consulting company is affected by broader issues of economics, politics, history, power, pandemics and even climate change. Some of the more direct generative mechanisms impacting the consulting company and its mentoring activities were in relation to the company conducting environmental and water specialist assessment and engineering work for a range of companies for different sectors including agriculture, mining and manufacturing industries. These sectors have faced various economic impacts due to the decreasing Rand value; increasing energy costs and load shedding; water scarcity due to drought; unemployment and poverty and social unrest and corruption. The cost of these pressures decreases the development of these sectors and thus the need for the range of services and expertise of the consulting company. If the services are secured, there are often delays in payments and the competition with other environmental consulting companies is high, requiring lower rates or increasing proficiency to secure jobs and thus pressure to undertake more work to generate sufficient income for the organisation and cover costs.

The'following structural emergent properties (SEPs) and cultural emergent properties (CEPs) emerged from these generative mechanisms and it is this context that influenced the mentors' and pioneers' mentoring activities and agency.

5.3.3 Structural emergent properties conditioning mentors and pioneers in the environmental consulting company at T1

The SEPs that emerged from the above-mentioned generative mechanisms in 5.2.2 and conditioned the mentors and pioneers are described as follows and are summarised and introduced in the left-hand side of Figure 69 further on in section 5.3.10.

5.3.3.1 Accessibility and diversity of roles

In the consulting company there were managers overseeing the different divisions and reporting to Mike (section 4.3.1). There was collaboration across the different divisions (wetlands, engineering, biodiversity and water) as many of the company's consulting jobs required the range of expertise within these divisions. The structure of the divisions to service the range of environmental fields shaped the interactions and activities of the pioneers, mentors and other staff. All staff were accountable to Mike as director of the organisation. The different mentors and staff had varied levels of accessibility for the pioneers to engage with them depending on their busyness or work relevance. The role that Jack and during certain times (in the beginning), the coordinator, played as mentor to the pioneers was important when Mike, as leader of the company, was extremely busy (section 4.3.1.1, C2qReportQ32013, C1M1&2P2VB, C2M1&2P3VB, C2M2VB).

5.3.3.2 Market driven short term projects

The consulting company is responding to the different sectors and market needs for environmental assessments and services which have short turnaround times. In addition, there is a need to undertake many of these contracts in order to cover costs. The result of this is that staff would be very busy with limited time (section 4.3.1.1).

External to the consulting company is the nature of funding Groen Sebenza through SANBI. Groen Sebenza emerged out of National Treasury's Jobs Fund (R9 billion) announced by the President at the time and launched by the Minister of Finance at the time in 2011 in response to unemployment rates. The nature of this funding was large amounts, rushed disbursement with short turnaround time for development and implementation by SANBI. The impact of this on the start of Groen Sebenza- SANBI management capacity, selection and placement of

pioneers and guidance was experience by the consulting company (C2M2Context, section 4.3.1.1, SANBI, 2016).

5.3.3.3 Broad-based Black Economic Empowerment (B-BBEE)

The Broad-Based Black Economic Empowerment (B-BBEE) programme was launched by the South African government in 2004 to transform the economy following the resultant inequalities of Apartheid. with Codes of Good Practice gazetted in February 2007 (Republic of South Africa, 2004, 2007). It provides a legislative framework for the transformation of South Afric''s economy. B-BBEE influenced the consulting company in that it is a motivator for transformation within the company to securing consulting work and contracts (C2M2Context, section 4.3.1.1).

5.3.4 Cultural emergent properties conditioning mentors and pioneers in the environmental consulting company at T1

The CEPS that emerged from the above-mentioned generative mechanisms in 5.3.2 and conditioned the mentors and pioneers are described as follows and are summarised and introduced in the left-hand side of Figure 69 further on in section 5.3.10. These CEPs arising from generative mechanisms provide the conditioning context for social-cultural and group interaction in the environmental consulting company at T2-T3.

5.3.4.1 Apartheid and racial imbalances

As with the environmental NPO and described in section 5.2.4.2, South Africa's history of colonialism and Apartheid continues to influence most aspects of society in the country. Apartheid drove a division between white people and people of colour, especially black people and led to deeply entrenched and harmful oppression of black people. The legacy of apartheid has an influence on organisation including the consulting company. Differences in quality of education, access to employment, financial resources, networks, power, language and many other factors exist for black people and white people in the consulting company (Chapter 1, section 1.3, C2M2VA).

5.3.4.2 Business efficiency

The generative mechanisms that created the market driven short term projects mentioned above also instilled a discourse and culture of operation of business efficiency in the consulting company. The mentors have described how busy it is and that part of the need for pioneers was the additional human resources for work that was available (section 4.3.1, C2M2VA, C2M2Context).

5.3.4.3 Scientific technical and ethical proficiency

In response to the generative mechanisms mentioned, the consulting company maintained a high standard of scientific technical proficiency in their work. This ensured continued market reputation and recognition for ongoing work. The consulting company has been recognised for their standards of work with awards and acknowledgements of their contributions to the sector as sector leaders. This required proficiency has influenced and conditioned the work of the mentors with the pioneers (section 4.3.1, C2M2VA, C2M2Context).

5.3.4.4 A culture of community responsibility

The consulting company had a history of contributing to community-based initiatives, especially in the field of citizen science. Besides the training and capacity development work that they do with government, they have played a supportive role in community-based initiatives such as the Duzi uMngeni Conservation Trust, environmental education and awareness and have provided work experience to many university students (section 4.3.1, C2M2VA, C2M2Context).

5.3.5 Primary and corporate agents at T1 in the environmental consulting company

This section introduces the personal factors conditioning mentoring in the company. Through a social realist lens, the pioneers, as unemployed graduates, were exercising their primary agency of seeking work opportunities. The mentors in the company were participating fully in the workplace and exercising their corporate agency. The company and its mentors had committed to Groen Sebenza for the sake of transformation of the organisation and increasing the number of suitably skilled black staff (4.3.1). Through the social-cultural and group interaction examined in the next section, it is revealed how the corporate agents (mentors)

further developed their corporate agency. The primary agents became corporate agents with workplace agency, but this is only examined at T4.

5.3.6 Social-cultural and group interaction in the environmental consulting company (T2-T3)

The social-cultural and group interactions were explained in detail in Chapter 4. The overall activities indicating the value of mentoring for the mentors and pioneers are represented in section 4.3.2.5. These activities are further represented as overviews of indicators of the value of mentoring in section 4.3.2.6 and mentoring value creation trajectories for the mentors and pioneers in section 4.3.2.7. This formed layer 1 (see Table 8 in section 3.6) inductive analysis, with some degree of abduction. The findings of the retroductive analysis are represented in the next section where the constraining structural and cultural factors at Layer 2 and 3 (see Table 7 in section 3.6) are identified.

5.3.7 SEPs and CEPs constraining mentoring in the environmental consulting company

The constraining SEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (section 4.3.2.5) were identified and are described for the mentors and their pioneers in the sub-sections that follow.

5.3.7.1 Mentors Mike, Jack and pioneers Anele, Mandla and Raymond constraining SEPs

The graduate degrees that the pioneers had completed before entering the company did not adequately equip them with all the essential workplace skills and practical experience required to do basic work in the company, for example scientific writing of reports (C2M2Context, C2M1&2P2VB). The mentors had limited time to engage with the pioneers; both the pioneers and the mentors had noted this (C2M1VA, C2M1&2P3VB, C2M1&2P2VB, C2M2VB). Communication was a challenge, as mentioned by the mentors as well as by Mandla, who seemed to be the most challenged. The structural aspect of this constraint was that the pioneers felt more comfortable to talk to Jack than to Mike as they felt nervous to approach him. Raymond was “scared” to talk to Mike (C2M1VA, C2M1&2P3VB, C2M1&2P2VB, C2M2VB) and both mentors mentioned how busy Mike was which potentially limited his time with the pioneers to talk and build their confidence to openly communicate (C2M1VA, C2M2VB). Communication was a challenge, specifically in terms of language as a constraint.

English was the language spoken in the workplace and the home language of the majority of staff at the company. English was not necessarily the home language of the pioneers (C2M2VB C2M1&2P2VB, C2M2Q). There were no guidelines for mentoring the pioneers provided by SANBI at the beginning after placement of the pioneers (C2M1VA, C2M2VA). Writing ability was a constraint for the pioneers. As Mike mentioned: "probably the biggest downfalls is their ability to write, structure their thoughts, write coherently and logically" (C2M1VA). In terms of both language and writing, the quality of education experienced by the pioneers would be the generative mechanism influencing these cultural emergent properties. The constraining SEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 69 further on in section 5.3.10. The constraining CEPs identified during T2 to T3 of the mentoring activities (4.3.2.5) are discussed in the sub-sections that follow.

5.3.7.2 Mentors Mike, Jack and pioneers Anele, Mandla and Raymond constraining CEPs

Some of the constraining cultural emergent properties identified during T2 to T3 of the mentoring activities highlighted above included Jack feeling that the pioneers were not "fitting in" with the other staff (predominantly white). I too observed this while in the workplace doing observations. The pioneers would stick to themselves and during tea breaks and would take their refreshments, but not stay to talk with other staff members. The backgrounds and cultural differences between the pioneers and the staff were constraining factors in the pioneers' ability to connect with the staff in the workplace (C2M2VB, Site visit 1 C2). Distant place of origin was a constraining factor to the pioneer settling and being happy in the workplace. Anele was from Limpopo province and according to the mentor, she initially struggled to fit in because of this factor as she had a different background and was less familiar in the area (C2M2VA). The constraining CEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 in section 5.3.10.

5.3.7.3 Mentors Mike, Jack and pioneers Anele, Mandla and Raymond enabling SEPs

The enabling SEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.3.2.5) included the role of the staff member who was assigned as coordinator in the beginning as being important and useful to the mentors. This enabling structural emergent property was apparent for the period that she was in the role (she left the company and Jack stepped into this role) (C2M2VA, C2M1VA). Formal workplace skills training such as the

scientific writing course was useful for development essential workplace skills (C2M1VA). I observed the office space where the pioneers were based, together. They were able to help each other and discuss their work and this was a valuable structure emergent property (Site visit 1 C2). While the mentors either did not attend/or find the majority of the SANBI-led mentoring workshops extremely useful, Jack said that the workshop on preparing the pioneers for finding permanent employment was useful in guiding him (C2M2VB). The pioneers and Mike highlighted the value of having one of the other interns (not Groen Sebenza), based in the company and available to work with and assist the pioneers in various workplace skills (C2M1&2P3VB, C2M1VB). The enabling SEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 in section 5.3.10. The enabling CEPs identified during T2 to T3 of the mentoring activities from Chapter 4 (sections 4.3.2.5) were identified and are described for the mentors and their pioneers in the sub-sections that follow.

5.3.7.4 Mentors Mike, Jack and pioneers Anele, Mandla and Raymond enabling CEPs

Some of the enabling cultural emergent properties identified during T2 to T3 of the mentoring activities highlighted above included a culture of peer learning where the pioneers and intern communicated and assisted each other freely in their workspace, learning much from each other (C2M1&2P3VB, C2M1VB, C2M2VB, C2M1&2P2VB, Site visit 1 C2). The enabling CEPs identified during T2 to T3 are summarised and introduced in the bottom centre of Figure 68 in section 5.3.10.

5.3.8 Emergence of PEPs in the environmental consulting company

The emergence of PEPs, which signify the development of agency, were identified during T2 to T3 of the mentoring activities from Chapter 4 (section 4.3.2.5) and are listed for the mentors and their pioneers in the sub-sections that follow.

5.3.8.1 Mentor Jack and pioneers Anele, Mandla and Raymond PEPs

- The pioneers developed the ability to ask for help (C2M1&2P2VB, C2M1&2P3VB, Site visit 1 C2)
- The pioneers developed the ability to 233rganizate areas of improvement and further learning needs (C2M1&2P2VB, C2M1&2P3VB).

- Raymond developed a new interest in water quality, whereas previously he was determined to234rganizatie in boreholes (C2M2VB, C2M1&2P3VB).
- Both Raymond and Mandla expressed a desire to do work where they can contribute to their communities, in KwaZulu-Natal or Limpopo. Jack confirmed this (C2M2VB, C2M1&2P2VB, C2M1&2P3VB).
- The pioneers were able to take initiative in the workplace and lead on work (C2M2VB).
- Jack felt a sense of pride in the pioneers' development (C2M2VB).
- Jack shared a new sense of values, purpose, and societal contribution that he was experiencing through mentoring (C2M2VB).

The emergence of PEPs as identified during T2 to T3 was summarised and introduced in the top centre of Figure 69 in the next section. This section uses the above findings to explain the overall structural cultural and agential elaboration and reproduction at (T4) and thus the transformative value of mentoring for the company.

5.3.9 Structural cultural and agential elaboration and reproduction (T4) and transformative value of mentoring for an environmental consulting company

Using the morphogenetic framework, I will explain change over time as transformative value of mentoring for the company. Figure 69 provides an overview of how the structural, cultural and agential elaboration and reproduction came about in the company using the previous section's analysis and findings. At T1 the conditioning context was introduced (sections 5.3.1-5.3.5) including generative mechanisms that are indirect (economics, politics, history, power, pandemics, climate change). Direct generative mechanisms included thedecreased Rand value; increased energy costs, load shedding; drought; unemployment; social unrest; corruption; decreased development in agriculture, mining, manufacturing sectors; decreased need for consulting services; increased competition with other consulting companies and more work. From these generative mechanisms emerged structural and cultural emergent properties in the company. The SEPs identified included accessibility and diversity of roles; market driven short term projects; Broad-based Black Economic Empowerment. The CEPs included Apartheid and imbalances; business efficiency; scientific technical and ethical proficiency, a culture of community responsibility and varied and irregular funding of projects. At T1, when considering agency, the pioneers were at this stage unemployed youth entering Groen Sebenza

as primary agents and the mentors were employees with corporate agency in the workplace and primary agency as mentors in the workplace.

During T2-T3 the value creation analysis of immediate, potential, applied,235rganizad value in Chapter 4 provided explanation of the social-cultural and group interaction as mentoring in the company. In Figure 69 the constraining and enabling SEPs and CEPs identified during T2 to T3 of the mentoring activities from Chapter 4 are introduced for the mentors and pioneers. The explanation of enabling value is thus examined more deeply and thoroughly in comparison with the factors of enabling value depicted in Figure 66 in Chapter 4.

In Figure 69 the emergence of PEPs identified during T2 to T3 through the mentoring activities from Chapter 4 are introduced for Jack and the pioneers. It is through the interaction of these SEPs, CEPs and PEPs that structural cultural and agential elaboration and the transformative value of mentoring for the company at T4 is possible. Jack expanded his primary agency as he mentored, beyond their former corporate workplace agency (Archer, 1995). The pioneers were able to fully participate in the workplace CoP (Wenger, 1998; Lave and Wenger, 1991), expand their primary agency and become corporate agents in the workplace like their mentors. This is the transformative value of mentoring.

In the case of the Jack, Mike and the pioneers, there was an interplay between a culture of peer learning, structural factors (the coordination role, formal workplace skills development, the pioneers' shared office space, permanent employment preparation and access to other intern skills) and agentive factors. During the social-cultural and group interaction as mentoring, Jack felt a sense of pride with the pioneers, he described a renewed sense of values, purpose, and societal contribution. The pioneers developed the ability to ask for help, to235rganizate areas of improvement and further learning needs, a desire to contribute to the community, take initiative and develop new workplace interests.

There were constraining factors such as cultural difference and different backgrounds of the mentors and pioneers. Structural factors such as the pioneers' degrees lacking essential workplace skills; the limited time of mentors; an unstructured approach to mentoring; difficulty in being able to communicate with Mike; no guidelines for mentoring the pioneers provided by SANBI at the beginning after placement of the pioneers and language (spoken and written) were constraining factors.

As with the case of the environmental NPO, the emergence of factors from generative mechanisms, the mentoring interactions and the further emergence of structural, cultural and agentive factors (that result in the transformative value of the pioneers becoming full participants in the CoP and workplace corporate agents) is not linear. It is not evident that factor A (e.g. shared office space) led to factor B (e.g. taking initiative) led to C (e.g. employment) and factor D (e.g. different backgrounds) constrained this elaboration. It was the messy, complex interplay of all these factors during the mentoring 236rganizatid in Figure 68) from which morphogenesis occurred as structural cultural and agential elaboration.

In 2019 Jack confirmed this structural, cultural and agential elaboration and morphogenesis. Jack verified that Anele grew during her time at the company and was employed at a consultancy early on and she continues to do social and environmental type research work. Jack said that Raymond successfully completed his Master's degree overseas and returned to South Africa and found employment in Limpopo. Jack described how Mandla took longer to become a corporate agent in the workplace but towards the end of his time at the NPO "absolutely excelled". Jack reported that he suddenly just "clicked" and is now employed as a teacher (not in the organization) (C2M2VC).

Jack reported that the NPO continues to mentor young professionals for shorter periods of time, as graduates and interns. Some of these young professionals have been employed permanently in the NPO. Jack continues to mentor some of them in his area of work and other people in other areas of work such as citizen science methods. A culture of mentoring seems to have been further established in the NPO and the company has strengthened its stance: "As a company we are interested in seeing growth and advancing people in the environmental field where we can, often on weekends and in spare time we help out where we can" (C2M2VC).

As an individual, Jack reported that he was happy to continue mentoring and is still mentoring; he said that he "enjoys helping guys progress" and "I would be willing to continue mentoring" (C2M2VC). Structural cultural and agential elaboration and the transformative value of mentoring was evident and further insight into this was provided, particularly through the reflections of Mike during the process of exploring the strategic value of mentoring.

6.5 **Conclusion**

This chapter has provided a deeper understanding of how mentoring resulted in agential, cultural and structural elaboration, as transformative value in the case study organisations. Identifying the structural, cultural and agentive factors enabling the value creation possibilities of mentoring and expanded Wenger-Trayner and Wenger-Trayner's (2014)237rganization237d237onn of enabling value in the framework. These findings and the findings of Chapter 4 were used to identify the strategic value of mentoring in environmental organisations through engagement with the research participants in Chapter 6. The findings in Chapter 6 also provide further evidence of this structural, cultural and agential elaboration and morphogenesis.

CHAPTER 6: THE STRATEGIC VALUE OF MENTORING IN ENVIRONMENTAL ORGANISATIONS IN SOUTH AFRICA

6.1 Introduction

"*Creating value is a process and not an end result*" (Wenger-Trayner & Wenger-Trayner, 2020, p. 44). The essence of Etienne and Beverly Wenger-Trayner's (2020) new book verified the original intention of this last chapter to be about ensuring that the research was not conducted for the sake of conducting research but for research that could make a difference. Human capacity development initiatives need to be orientated by research that is able to explain social change and identify causal mechanisms. While Chapter 5 revealed how mentoring resulted in agential, cultural and structural elaboration, as transformative value in the case study organisations, Chapter 6 aims to support initiatives and the case study organisations to address the constraining factors and make better use of the enabling factors of mentoring. It aimed to do so through further engagement and conversation with the research participants. Strategic value places "emphasis on conversations and relationships" (Wenger-Trayner & Wenger-Trayner, 2020, p. 111). The following conversations with the research participants articulated the strategic direction of mentoring for human capacity development initiatives through reflection on the structural, cultural and agentive factors enabling and constraining mentoring. These conversations "clarify the strategic context" in which the research participants and their organisations are hosts and mentors in Groen Sebenza and other human capacity development initiatives, supporting mentoring of young professional in the environmental sector (Wenger-Trayner, 2014, p. 4).

Chapter 6 explores the strategic value of mentoring in an environmental non-profit organisation and an environmental consulting company. The conversations were shaped by the approach of mirror back workshops (Chapter 3 section 3.5.7) with the aim to generate strategic value and thus "produce something of value toward making a difference" (Wenger-Trayner & Wenger-Trayner, 2020, p. 45) to mentoring in the organisations and mentoring for environmental sector human capacity development initiatives supporting mentoring in South Africa. The chapter focuses on SANBI's Groen Sebenza and initiatives beyond Groen Sebenza with recommendations for a roadmap of enabling and constraining factors; mentor training opportunities; strategic discussions between Groen Sebenza with its host institution partners and strengthening university scientific writing skills development. The chapter discusses the

usefulness of the research for my work and society; the usefulness of the theoretical framework; further research recommendations and the contribution of the research to new knowledge.

6.2 Strategic value of mentoring for an environmental NPO

The coordinator of Groen Sebenza (Sarah) and mentor Patrick were part of the online discussion. The first reflective moment considered the value of allowing the pioneers whole activity exposure and being able to claim a legitimate peripheral role (Chapter 4). Sarah reiterated how important first-hand experiences are: “where they can say this is mine, it breeds accountability. Kiara gives them responsibilities, with accountability, but they are still able to make mistakes and they can learn. They are given grace to make mistakes but are given something that’s theirs”. She explained that this builds confidence and a sense of identity. Sarah found this finding extremely valuable. When reflecting on “peer learning” (Lave and Wenger, 1991, p.93), Sarah said that it was important that the pioneers could help each other and share their problems as they may be intimidated by the mentor. When reflecting on Kiara’s concern of not having enough time to give the pioneers suitable work, both Sarah and Patrick mentioned how even though the mentors may struggle to find time for the pioneers, the pioneers are able to find work to do if they are placed correctly.

When discussing a culture of impatience with lack of punctuality or efficiency that Patrick had experienced with his pioneers, Sarah and Patrick agreed that the approach that Patrick took did result in improved punctuality on the part of the pioneers. Sarah explained that while she would have handled the situation very differently, mentors have different personalities and it is an important that pioneers learn to manage working with very different mentors and managers, as she said: “(Patrick) is never late. The pioneer has to figure their manager out and learn to work with them”. Patrick provided further explanation for his possibly tough approach. He reflected that this “hardness was not necessarily the best way to get across”. He explained that his previous workplace experiences involved training and mentoring in the field with dangerous wildlife game on foot. There was serious risk involved and being hard in approach was necessary as it was a matter of life or death. Sarah then highlighted that different masculine and feminine approaches to mentoring is very interesting and an area requiring further conversation. She explained that men show care and support in different ways and that Patrick did care about the pioneer but emphasised that pioneers had to be professional. His intention was not to be mean but to get a point across.

Sarah noted an additional possible constraining factor. She said that Groen Sebenza was forced onto the mentors and that they did not have a choice in whether they could participate or not. The mentors were not consulted in the beginning and "many had to get over it and do it" and some may have been angry. Despite this, according to Sarah, the organisation's staff are "passionate and want to build leaders of the future" and in the end they managed quite well as mentors.

Patrick confirmed that both his pioneers were employed in promising positions, further confirming the transformative value of mentoring in their becoming workplace corporate agents discussed in section 5.2.9.

The group discussed the feedback of the findings and the strategic value of them for Groen Sebenza and other human capacity development initiatives, supporting mentoring of young professionals in the environmental sector. Patrick explained that the findings and feedback had come at an important time for his team in his own organisation (Patrick was seconded to the environmental NPO by a partner organisation to mentor the pioneers). He reflected that he felt that he was still doing some of the things which he felt he could do better at as a mentor and it was through the discussion of these findings that he reached this realisation and could now come up with ways to do things differently:

> This feedback has come at a really useful time. At the moment I have a small core team, they are not youngsters, but they are both about 10 years younger than me. One with a PhD and one with a MBA. I am probably as hard on them as I am on everybody and myself. They are not mentees. They stand up to me, they argue. But that core team, we are magnifying out and working in a larger sphere and we are going to be expanding. So each of us are going to have to take on a mentoring role on an expanded version and I was thinking along the lines of formalising that. So, if we were to learn from the SANBI mentoring and to increase efficacy, if we were to take on mentees, if we were to do that there are a good number of errors in terms of how I managed my two pioneers. How we went about selecting them, how we structured them and how we created a secure and enabling environment even if it was for a set period of time. So this was really good timing.

Patrick requested to receive the final findings and recommended the development of a 'roadmap' that provides guidance on mentoring using the findings and how to avoid some of the constraints discussed. He also recommended a follow-up discussion or opportunity to engage on the topic. The process of engaging with the PowerPoint presentation (see section 3.5.7) and findings assisted in his reflection on his current mentoring practice and "a good number of the errors that I made that I am replicating now". Sarah too wanted further

opportunity to discuss the findings and valued the discussions in the workshop. She provided crucial insight into the transformative value that mentoring created for the NPO and their future mentoring initiatives:

> Groen Sebenza was huge in terms of what it did for the organisation. It created a focus on a learning culture. There were already a few individuals – myself, (Kiara), (Malusi) who were already that way inclined but it forced the organisation to make it more of a reality so that was really powerful. Where we are, at the moment, is that we still take on interns. I am just starting a mentoring programme … as a pilot so we are doing skills profiles of the mentors with the idea that the interns can select a mentor that they would like to work with. Everyone above intern is a mentor and we are going to be doing training with them and the idea is that we will dedicate a number of hours to mentorship – we are currently doing a survey of how many hours. And that will be part of what we do. And whoever wants to work with us can be a mentor. And also promoting peer mentoring. So, I want to pilot this … and then hopefully the rest of the organisation. So Groen Sebenza has formed part of the organisation's culture, it has undoubtedly had an impact and it is growing. We had a bit of a hiatus in terms of a formal system, but it is picking up now actually. So interesting timing.

Sarah described the direction of the NPO in terms of new initiatives supporting young professionals and mentoring including a large-scale project in their marine programme that will employ and mentor young professionals through mentors within the NPO and their partners. They plan to offer training to the organisation and its partners' mentors and this research would be useful to such efforts.

Patrick and Sarah chose to focus on the strategic value of mentoring for initiatives relevant to their immediate work. Their recommendations have significance for all environmental sector human capacity development initiatives that support mentoring in South Africa. In summary, future strategic actions identified by Patrick and Sarah that can be taken forward by environmental sector human capacity development initiatives that support mentoring in South Africa include:

- A roadmap of enabling and constraining factors to mentoring
- Mentor training opportunities

6.3 Strategic value of mentoring for an environmental consulting company

Both mentors (Jack and Mike), as well as a newly employed coordinator of the company's mentoring initiatives, were part of the online discussion. Both mentors felt that the findings were well captured. The first reflective moment considered the value of a careful selection and employment process. Mike emphasised how important it is that the selection and employment

process of Groen Sebenza is improved in future: “we would have done much better and weeded out if we had more sophisticated tools and time- it was a rushed process”. He reiterated that a more sophisticated selection process would have had a better outcome and he would have preferred to “invest in someone who can excel in the space” rather than someone who was not suited or interested in the position. It was uncertain to which pioneers he was referring. This statement somewhat contradicted the transformative value of mentoring described in section 5.3.9 where Jack described how even the pioneer who took long to “click”, excelled in the end. The time taken to get to that point may not be sustainable for the company, especially when considering the structural factors of market driven short term projects and a culture of business efficiency that is necessary for the company to survive. Mike and Jack stated that they felt that the pioneer did realise his limitations in a scientific consulting workplace “with the pressures and time constraints”. Mike agreed that the role and personalities of mentor Jack and the previous coordinator were important to work closely with the pioneers and the challenges as he did not have the time. The new staff member suggested the need for robust methods of mentoring that cater for different pioneers and different personalities.

Jack confirmed that Raymond had done very well in his Master’s degree overseas and that he was now working in his home province of Limpopo for the Department of Water and Sanitation (DWS). He shared how Raymond had always discussed that he “wanted to give back to his community and ground water was an interest because it was important for his community”. Jack proudly said that it “was nice to see him working for DWS, in his community and in the water sector”. The strategic value of mentoring in placing young professionals as competent workplace corporate agents in a department governing our water in South Africa is significant.

When reflecting on the lack of a formal review process with the pioneers, Jack corrected this finding as he confirmed that he conducted reviews continuously on a “project by project basis”. He would discuss how each experience went with the pioneers one-on-one: what they learnt and where they could improve. It was thus an informal review process, but it still happened on a continuous basis.

When sharing the findings of the structural and cultural constraints, Mike expressed what seemed to be frustration. He shared the story of a friend who had been an apprentice and worked his way up to senior management. Mike felt that Groen Sebenza and even his career was a similar process: The pioneers were essentially apprentices and as a journeyman you are taught

and have to repeat until you do the work correctly. In their workplace they are required to write well, pay attention and analyse correctly as essential skills. He felt that this was how people learnt and there was no focus on mentors in this process: “A classical learning perspective in any environment. When I started in Umgeni Water there was none of this stuff around mentors but you got on and did the work and had to learn”. Mike questioned whether the pioneer experience was different from “any work, learning, life situation?”. He felt that the cultural constraints, language, expectations, and hard work would always be there. The nature of Mike’s reflections on these findings were uncertain and would require further discussion to strengthen my understanding and the strategic implications.

Mike discussed how the finding of the need for basic skills like report writing and analysis should be emphasised strongly with recommendations of how to rectify these challenges. He clarified that the writing short course that was arranged by the company did not help the pioneers hugely as these challenges cannot be overcome with short courses. He actually felt that basic and early education and teaching needs to be addressed and education quality is the problem. He suggested that scientific writing courses are offered at university from the first year of study that “get more and more rigorous as they go through to fourth year”. This recommendation would need to be taken forward beyond the PhD research and findings into broader environmental sector human capacity development initiatives.

Mike indicated that environmental sector human capacity development initiatives that support mentoring in South Africa must improve on Groen Sebenza to generate significant value and engagement with the professionals leading these initiatives is important to “do it differently and learn from the experience”. He highlighted that there was no discussion or feedback from SANBI with the host partners after Groen Sebenza. In summary, future strategic actions identified by Mike and Jack that can be taken forward by environmental sector human capacity development initiatives that support mentoring in South Africa include:

- Strategic discussions on lessons and feedback from SANBI on Groen Sebenza with the partners
- The selection process in initiatives particularly requires careful attention
- Investigate and strengthen university scientific writing skills development at undergraduate level to postgraduate level

The strategic value of mentoring was thus in the generation of these strategic actions identified by the organisations through reflection on the findings of immediate, potential, applied, realised, transformative and enabling value as the agentive, structural and cultural enabling and constraining factors.

6.4 Strategic value of mentoring for environmental sector human capacity development initiatives supporting mentoring in South Africa

In revisiting the objectives of the research, Chapter 4 explored mentoring as a value creating proposition in two different environmental organisations. Chapter 5 developed an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in these two environmental organisations. The strategic actions identified by the two organisations in the previous section are further developed in this section to inform human capacity development initiatives that support mentoring in the environment sector in South Africa.

6.4.1 SANBI's Groen Sebenza

In 2018 SANBI launched Groen Sebenza II and continues to place pioneers within SANBI and other host organisations, though on a smaller scale than the previous round (https://www.sanbi.org/job/groen-sebenza-ii-internships-2/). A final evaluation of Groen Sebenza I was conducted in 2016. According to the final monitoring and evaluation report of Groen Sebenza (SANBI, 2016), the programme largely achieved its objectives:

- To enhance employability within the biodiversity sector
- To enhance capability of the sector to create employment opportunities
- To develop a replicable model for job creation and skills development

According to this research and in reflecting on the transformative value of mentoring revealed in Chapter 5 with the case study organisations, I largely agree with the achievement of these objectives. However, considering the findings of the research and especially the previous sections of this chapter, there is a need to catalyse continued learning and reflection for future human capacity development initiatives. In reviewing the final evaluation report's findings in terms of effective mentoring practice, the relevant insights for human capacity development initiatives focussed on mentoring in the environment sector included (SANBI, 2016b, p. 49):

1. Ensure manageable mentor to mentee ratios

2. Ensure mechanisms to identify and correct less-than-ideal mentor-mentee pairings

The findings of this research provide deeper insight into "manageable mentor to mentee ratios" pointed to in the monitoring and evaluation report (SANBI, 2016b). In the environmental NPO there was one mentor with at least five pioneers and one mentor with only one pioneer; the ratios were therefore diverse. Having a large group of pioneers and one mentor was identified as an enabling factor and had applied value in this research (section 5.2.8.4). A culture of collaboration and teamwork was evident and Lave and Wenger (1991, p. 93) highlighted how "rapid and effective" learning between apprentices or peers is. If the recommendation is that less mentees would make it more 'manageable' for the mentors, in many contexts and with the perspective of learning as LPP and participation in CoP, this is not entirely relevant. "Manageable ratios" may differ in other cases and is largely dependent on the mentor and organisational context. Patrick had two pioneers during the research and recommended a larger group of pioneers/mentees to mentor in future (see section 6.2). Further on in the final monitoring and evaluation report of Groen Sebenza (SANBI, 2016b), it is highlighted that "allocating multiple pioneers per mentor introduced economies of scale" (SANBI, 2016b, p. 57). Therefore, the advantages in terms of productivity of the pioneers and thus the benefits as they more fully participated in the workplace when placed in larger numbers per mentor, were possibly realised in some organisations.

The final monitoring and evaluation report of Groen Sebenza (SANBI, 2016b) noted that "less-than-ideal mentor-mentee pairings" were a challenge. In the environmental consulting company, the mentors struggled with a pioneer who was not an ideal pairing, as was verified by the pioneer himself (section 6.3, C2M2VA, C2M1&2P2VB). The pioneer, at the end of his time at the company did "click" as a participant in the workplace and experienced the value creation possibilities of mentoring, explained in Chapter 4 and Chapter 5.

The findings of this research contradicted the following perspective of the final monitoring and evaluation report of Groen Sebenza (SANBI, 2016b):

> Mentor training, delivered by Programme Management, was viewed as effective in helping mentors better understand their responsibilities, and in picking up effective mentoring practices, tools and techniques. The need for mentor training was determined post inception of the Programme, and in hindsight, would have benefitted from earlier delivery. (SANBI, 2016b, p. 48)

Unfortunately, the mentor training offered by SANBI was not identified as being effective by the mentors (those that attended) in the findings of the research (of Chapter 4). It should be noted that the mentors did not attend all the mentor training opportunities and so this may have limited their perspectives. The environmental NPO ensured that the coordinator (Sarah) attended the training and shared the most important knowledge with the mentors through their own internal workshops. The final monitoring and evaluation report did recommend "earlier delivery of mentor training would have contributed to more effective mentoring practices, earlier" (SANBI, 2016b, p. 57). As shown in this research, initial training would have benefited the mentors in terms of clear guidelines and knowledge in terms of mentoring as this was identified as a constraining SEP in both organisations in Chapter 5. Recommendations for training content will be provided below in section 6.4.2.1.

6.4.2 Human capacity development initiatives beyond Groen Sebenza

Besides SANBI and Groen Sebenza, other human capacity development initiatives may benefit from feedback on the strategic actions identified by the case study organisations research participants to support mentoring in environmental organisations. These strategic actions are summarised and consolidated as:

- A roadmap of enabling and constraining factors
- Mentor training opportunities
- Selection process in initiatives particularly requires careful reflection
- Investigate and strengthen university scientific writing skills development at undergraduate level to postgraduate level

Further suggestions and information regarding these strategic actions are provided in the next section.

6.4.2.1 Integration of enabling and constraining factors of mentoring into materials, tools and processes to support learning on mentoring

The 'roadmap' suggested by Patrick in the environmental NPO can be viewed as a tool for further discussion on mentoring in environmental organisations and human capacity development initiatives. The enabling and constraining factors are from a specific time and context in specific case study organisations and are therefore not necessarily a recipe for

diverse contexts and situations. Other mentors and environmental organisations may relate to many of the factors that enable and constrain mentoring in environmental organisations. The development of such a roadmap falls outside of the scope of the research and in my professional experience, materials development is a collaborative process which requires a specific objective with a clear target audience in mind (Van der Merwe, 2011). Therefore, the structural and cultural constraining and enabling factors for mentoring identified in the case study organisations have been briefly consolidated and247rganizatid (see Figures 68 and 69) for further uptake into materials, tools and process to support learning on mentoring in Tables 15 and 16 below. These can be used by organisations to develop guidelines or 'roadmaps' that are247rganization247dd by the247rganizationn in deliberation with mentors and mentees.

Table 15: Consolidation of structural and cultural constraining factors of mentoring in the case study organisations

Structural constraining factors of mentoring	**Cultural constraining factors of mentoring**
• No guidelines for mentors and organisations at the beginning or before implementation of hosting of pioneers • Funding uncertainty for continued employment of pioneers • Limited work appropriate for pioneers' skills levels • The later inclusion of replacement pioneers • No clear performance plan for pioneers • Selection does not include clear role expectations of pioneers • Organisation is under resourced • No central office space for pioneers • Limited variety of work experience for pioneers • Little or no time for mentoring • Graduate pioneers' qualifications lack essential workplace skills • Approach to mentoring lacks structure • Pioneers lack confidence to communicate with senior management • English language proficiency of pioneers • Lack of basic scientific writing ability	• Culture of urgency • Culture of overworking and personal sacrifice • Limited communication • Uncertain expectations of the pioneers • Impatience • Cultural background differences

The structural and cultural enabling factors for mentoring identified in the case study organisations have been briefly consolidated and summarized (see Figures 68 and 69) for

further uptake into materials, tools and process to support learning on mentoring in Table 16 that follows.

Table 16: Consolidation of structural and cultural enabling factors of mentoring in the case study organisations

Structural enabling factors of mentoring	Cultural enabling factors of mentoring
• Mentoring and pioneer work integrated into with Key Performance Indicators of the mentor • Regular pioneers and mentor team meetings • Internal248rganizationn mentoring workshops • Organisation coordination and administration role for the pioneers • Pioneer performance appraisals • Pioneers have a shared office space (adaptable to roles or promotions) • Pioneers have access to other mentors in the248rganizationn • Formal skills development and training opportunities for pioneers • Permanent positions available for pioneers • Personal development discussions between mentor and pioneers • Clear procedures followed by the mentor as an example to the pioneer • SANBI-led employment readiness workshop for mentors and pioneers • Work with partners an opportunity for networking and diverse experience for the pioneers • The pioneer costs and salaries are covered by SANBI • Pioneers get diverse work experience • Pioneers able to access to other organisations' staff and intern skills	• Open door culture • Collaboration and teamwork culture • Culture of care • Culture of compliance • Culture of open communication • Culture of critical thinking • Culture of peer learning

It is recommended that the consolidation of factors in Tables 15 and 16 be used as knowledge to inform learning processes of human capacity development initiatives that support mentoring in the environment sector in South Africa. Such initiatives include mentor training.

6.4.2.2 Mentor training within human capacity development initiatives

In section 6.2 Sarah from the environmental NPO said that they would offer training to their mentors in a new internship initiative that was starting. In March 2021, Donavan Fullard completed a Master's research thesis that explored how processes of learning, knowing and

value creation contribute to empowerment and retention of unemployed youth in a successful host institution in Groen Sebenza, and what enabled and constrained the empowerment and retention processes and outcomes (Fullard, 2021). Key findings of the study point to the development of enabling cultures of mentoring in workplaces, and the value of the mentor training that was provided by SANBI. While the SANBI mentor training was not identified as a structural enabling factor in the case study organisations in this study, the NPO did find value in the internal workshops provided by the coordinator.

Currently in South Africa, in response to the COVID-19 pandemic, the Presidential Employment Stimulus Plan has been initiated and aims to create more than 800 000 job opportunities for the youth of South Africa through an investment of more than R14 billion (The Presidency, 2021). Further recommendations for such national developments will be discussed in section 6.5. In this section I highlight these various and significant developments as it will be important to build on, adapt and use past human capacity development initiatives that support mentoring in the environment sector in South Africa. One such initiative was the GreenMatter Mentors for the Environment Course developed in 2015 (section 1.5.2.4) which is available for free online (Rosenberg & Raven, 2015).

Through this research, however, I suggest the following possible additions to the course content in relation to the findings of the research.

Module 1 (a systems analysis of a mentoring activity): is a useful approach to "analysing an organisation's context and the broader context in which mentoring takes place". In order for training participants to deeply understand how mentoring manifests as a social learning process, I recommend the integration of the social learning value creation framework to identify and explain mentoring as a social learning value creating proposition. In order for training participants to understand how mentoring, as a social learning process, enables the emergence of agency from diverse conditions over time, I recommend an analysis of the history and context of mentoring within the organization and within the landscape of practice and through analytical dualism and morphogenesis, an examination of structure and agency over time.

Module 2 (Theories of Mentoring): I recommend an expansion of the content to include the overview of the research theory (Figure 23) in section 2.7 that includes a critical realist

ontology, social realist meta-theory, domain specific metatheory (applying realist precepts to specific empirical and conceptual issues raised in the immanent critique of pre-existing paradigms of mentoring) and the specific theory of social learning through a value creation framework, LPP and CoP. The importance of these theories will be explained in section 6.6 below.

Module 3 (Tools for Mentoring): I recommend the inclusion of enabling and constraining factors of mentoring into materials, tools and processes to support learning on mentoring (summaries in Table 14 and 15 above). The most relevant findings possibly include: mentoring aligned Key Performance Indicators; sophisticated selection processes and methods; pioneer performance appraisals and internal mentoring training (with content adjustments as recommended); formal skills training materials/information for young professionals such as scientific writing.

These recommendations for mentoring training are only useful if they are shared with SANBI and the present leaders of Groen Sebenza. They are also only useful if they are shared by SANBI and the Groen Sebenza partners.

6.4.2.3 Strategic discussion on recommendation with SANBI and Groen Sebenza *partners*

The findings of the research will be shared with the current SANBI Groen Sebenza management team directly as well as through the current Mid-Term Review of the Implementation of the Biodiversity Human Capital Development Strategy (BHCDS), of which I am a steering committee member. It will be strongly recommended that follow up and feedback engagement with past Groen Sebenza partners is initiated using upcoming platforms, including the Environmental Skills Summit and the Presidential Employment Stimulus Plan mentioned above. The recommendations by the case study organisations of strengthening the selection process of pioneers in future initiatives as well as university scientific writing skills development at undergraduate level to postgraduate level will be integrated into these engagements. The Human Capital Development Strategy for the Biodiversity sector (BHCDS, 2010) raised the high vacancy rates in the public sector and employment opportunities in environmental consulting companies and so this recommendation is particularly relevant for future demand strategies for the employment of young professionals in the environmental sector.

6.5 The usefulness of the research for my work

The skills and knowledge that I gained through this research have been valuable to my career and the meaningful work that I do. While it was incredibly challenging to do the research part-time while working, I was able to integrate the research into my work over the years which further strengthened my ability and reflexivity as a researcher. The following are some of the examples of work that I have done where the research has proven useful:

6.5.1 WWF-Mondi Wetlands Programme Evaluation

In 2016 I conducted an evaluation of the WWF-Mondi Wetlands Programme's work with multiple sectors towards freshwater ecosystem stewardship in three river catchments in KwaZulu-Natal, South Africa. I used the value creation framework of Wenger et al. (2011) as the methodology to develop stories of value creation of case studies of the WWF-Mondi Wetlands Programme's work as well as a reflection and learning tool with the staff.

6.5.2 Proposal for mentoring Department of Water and Sanitation graduate trainees

From 2017 to 2019 I was employed by the National Business Initiative as coordinator of the uMhlathuze Water Stewardship Partnership in KwaZulu-Natal. During that time, I developed a proposal to support the Department of Water and Sanitation's Learning Academy through placement of graduate trainees with the uMhlathuze Water Stewardship Partnership partner organisations. The research was extremely useful for guiding the approach to mentor training and pioneer support and developing a convincing argument for funding built on the literature, methodology, theory and findings of this research. Unfortunately, I left the organisation to join the Water Research Commission (WRC) before we could implement the project.

6.5.3 The Water Research Commission Youth Engagement Strategy

In 2020 I provided input on mentoring for the WRC's draft Youth Engagement Strategy for the following two years. I used the findings and knowledge gained through the research to strengthen the organisation's approach and guidance on youth engagement.

6.5.4 Mid-Term Review of the Implementation of the Biodiversity Human Capital Development Strategy (BHCDS)

I was invited to join the steering committee for the mid-term review of the implementation of the Biodiversity Human Capital Development Strategy commissioned by the Lewis Foundation and SANBI in 2021. The findings were shared with the review team and integrated into the draft report which included a case study of implementation of the strategy which focused on implementation through initiatives, including Groen Sebenza. The draft report (Lewis Foundation & SANBI, 2021) was reviewed and workshopped nationally at a Mini Environmental Skills Summit in March 2021 where I led discussions on supply side successes (attraction, access, mentoring, internships, fellowships, career guidance, transformation) (SANBI, 2021). A syndicate working group to further work in the supply side aspects was established.

6.5.5 Social learning of the Ecological Infrastructure for Water Security project

I am currently employed by the Water Research Commission to manage the social learning and knowledge management of the Ecological Infrastructure for Water Security project. The Global Environmental Facility provided a grant to South Africa to support the mobilisation of sustained investment in ecological infrastructure in order to improve water security (SANBI, 2016a). This intervention engages with the development of supportive national and subnational policies, institutional structures and financing mechanisms and focuses on two demonstration catchments which include strategic water source areas critical to water security. To strengthen learning between the project partner organisations as well as the external stakeholders, we are using the social learning value creation framework. The value creation framework is also an important addition to the results and quantitative data driven monitoring and evaluation system of the project, strengthening the understanding and evidence of social change and learning. The reflection and learning of the project team, which I coordinate, has been strengthened through use of the value creation framework. Other similar projects of the Water Research Commission and SANBI have integrated the value creation framework into their project activities, and I have provided training and support to many of these researchers and practitioners on using the value creation framework.

The Presidential Employment Stimulus (The Presidency, 2021) and SANBI's Groen Sebenza II has enabled the project to employ many interns and research assistants. I have used the

knowledge gained through the research to support the learning and practice of the mentors of the project through my role as Senior Knowledge Coordinator.

6.5.6 Support for the Rhodes University Environmental Learning Research Centre Value creation Framework Working Group

The research community that I am part of at Rhodes University has seen a growing demand and interest in the value creation framework by researchers and practitioners in the past year. A working group has been established where I participate and contribute to seminars. I led a workshop on the value creation framework at the 2021 Environmental Education Association of Southern Africa conference on behalf of this working group. The objectives of the working group are to:

- Promote research and learning partnerships among scholars and academics
- Deepen understanding of the Value Creation Framework, including its limitations, and advancing it
- Develop and nurture local and international networks
- Produce valuable support material for the evaluation of social learning projects
- Build a repository of learning and support material

The next section addresses the usefulness of the theoretical framework and is important for the working group and the researchers and practitioners interested in and using the value creation framework in their practice.

6.6 The usefulness of the theoretical framework

In section 6.4.2.2 I referred to Figure 24 (section 2.7 of Chapter 2) that outlines the critical realist ontology, social realist meta-theory, domain specific metatheory (applying realist precepts to specific empirical and conceptual issues raised in the immanent critique of pre-existing paradigms of mentoring) and the specific theory of social learning that allowed me:

- To explore mentoring as a value creating proposition in environmental organisations;
- To develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations; with a view
- To inform human capacity development initiatives that support mentoring in the environment sector.

As shown across this thesis, the theoretical framework outlined above and the process of how I developed this theoretical framework is a potentially useful contribution to environmental education research. In section 2.2 and 2.3 of Chapter 2, I shared how I overcame the confusing dilemma of identifying appropriate theory for conceptualizing mentoring by developing a domain specific meta-theory through immanent critique. Research on mentoring is undertheorised and often in the economic and business domains, makes use of economic theories such as HCT. I explored how environmental education research in South Africa turned towards critical theory and this exploration strengthened my understanding of why HCT could not fulfil the purposes of my research. Vally and Motala (2015) and Ngcwangu (2015) provided insight into the influence of international capitalist agendas and that neoliberal orientations did not provide a suitable alternative to these individualistic and instrumentalist economic ideals. This study required theory that could explain mentoring of unemployed youth, as a common good initiative for a more just and sustainable society, as well as uncover underlying generative mechanisms, which HCT could not do. I critiqued the most commonly used theories within the literature and studies of mentoring as having one-on-one, hierarchical views of mentoring and a lack of consideration of the learning processes and theories. This revealed that consideration of multiple perspectives and views through learning processes and learning theory to explain the internal cognitive aspects of mentoring, the connection to others and the interaction of these aspects within South African environmental organisations was necessary for human capacity development initiatives with a common good purpose. The immanent critique revealed that early learning theories influencing mentoring focused on: learning as a product; the individual and learning as independent of context. Individualised views of learning in this study were not suitable as there were multiple mentors and learners who were part of Groen Sebenza.

Consequently, mentoring as a situated learning process of Legitimate Peripheral Participation in practice with a community was identified as a suitable theory to explain mentoring that links cognitive processes and social practice, with learning as a characteristic of this connection. The critique of Kram (1985) acknowledged the need to explain the internal cognitive aspects of mentoring and the connection to the social world, as well as their interaction. Learning as LPP provided a way of understanding becoming a social member with an identity and knowledge through participation in CoP (Lave & Wenger, 1991). Wenger's (1998) theoretical offering focused on learning as social participation through the interaction of practice, meaning, community and identity. The concept of knowledgeability explored learning in landscapes of practice (LoP) (Wenger-Trayner & Wenger-Trayner, 2015). Explaining the value creation

possibilities of mentoring within environmental organisations was made possible through the theoretical lens of LPP, CoP and LoP and overcame some of the shortfalls identified in other early learning theories as well as other theories of mentoring such as Kram (1985) and HCT. The social learning theoretical concepts of LLP, CoP and LoP using the literature of Lave (1990), Lave and Wenger (1991), Wenger (1998) and Wenger-Trayner and Wenger-Trayner (2015) helped me to explain how learning took place through mentoring in the organisations:

- Participation in practice; legitimate peripheral access and learning between peers (Lave & Wenger, 1991) (see sections 4.2.2.3, 4.2.3.3, 4.2.4.3, 4.3.2.3)
- Negotiating meaning; identity; participation; engagement with multiple perspectives; accountability to a community of practice and legitimate peripheral role (Wenger, 1998) (see sections 4.2.2.3, 4.2.3.3, 4.2.4.3, 4.3.2.3)
- Participation; observation; expectations and knowledge of curriculum (Lave, 1990) (see sections 4.2.2.3, 4.2.3.3, 4.2.4.3)
- Recognition; knowledgeability; learning within and across practices, engagement with multiple perspectives and practices (Wenger-Trayner & Wenger-Trayner, 2015) (see sections 4.2.2.3, 4.2.4.3)

How mentoring provides a value creation social learning trajectory for unemployed youth as pioneers was discussed in Chapter 4.

As is the nature of immanent critique I also interrogated the inadequacies of LPP and CoP in explaining the research in section 2.4. By examining existing critiques of these theories in the literature, I identified relevant shortfalls of LPP and CoP for explaining mentoring and sought to overcome them with Social Realism. In section 2.4.5, I revealed how social learning capability theory (Wenger, 2009) aimed to offer explanations of factors that enable social learning but is prescriptive with surface level claims that ignore factors constraining the value-creating possibilities of mentoring. This inadequacy led me to explore the ontological roots and intentions of CoP theorising in section 2.5 where I sought to offer a suitable alternative to develop an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in environmental organisations.

Examining structure, cultural and agency and their emergent properties over time within the domains of real, actual and empirical was an approach that I used to avoid conflation and this

allowed me to go beyond the present tense. Social realist ontology, theory and methodology provided an account of the interplay of structure, culture and agency over time, through emergent properties and the separation of structure and agency. It allowed for explanation of change over time through the identification of causal mechanisms. I sought to ensure consistency between the underlying ontology of critical realism, the social realist meta-theory and the domain specific meta-theory.

In section 2.6 I introduced reflexivity, as explored through PEPs and Archer (2003), as an alternative theory that can potentially strengthen Wenger's focus on social practice and social structure and this adds depth to examining identity formation and the morphogenesis of the person through PEPs in the study. The value creation framework offered a way to analyse the value creation possibilities of mentoring within the individual narratives as value creation stories. Social Realism revealed how agentive factors within individuals enables or constrains how they act in the world. In Chapter 5 Social Realism allowed me to examine PEPs and distinguish between a person, an agent (primary and corporate) and an actor. Examining PEPs allowed for a deeper understanding of the generative mechanisms that led to agential change or stability (Archer, 1996) in order to adequately inform human capacity development initiatives focussed on addressing transformation through mentoring in the environment sector. The social realist perspective enabled me to explain how young professionals expanded their primary agency, through full participation in workplace communities of practice, to find their identity as corporate agents in the workplace with their mentors. In Chapter 5 the analysis and explanation of transformative value was strengthened through deeper understanding of how mentoring resulted in agential, cultural and structural elaboration in the case study organisations. Identifying the structural, cultural and agentive factors enabling the value creation possibilities of mentoring expanded Wenger-Trayner and Wenger-Trayner's (2014) conceptualisation of enabling value in the framework.

The findings of Chapters 4 and 5 were used to identify the strategic value of mentoring in environmental organisations through engagement with the research participants in Chapter 6. These conversations with the research participants articulated the strategic direction of mentoring for human capacity development initiatives through reflection on the structural, cultural and agentive factors enabling and constraining mentoring. "The process of social learning as meaning making" (Wenger-Trayner & Wenger-Trayner, 2020 p. 49) was theorised through the value creation framework and explains how mentoring manifests as a social

learning process, enabling the emergence of agency from diverse conditions over time, and also is constrained by such.

6.7 Further research recommendations

6.7.1 Integration of recent value creation framework developments into research

Wenger-Trayner and Wenger-Trayner (2020, p. 3) explained that "our theory refrains from defining in general what counts as value, as 'the good', or as 'good' learning. This is something participants in social learning spaces have to decide". They further defined value creation as "leading to a difference that matters" (Wenger-Trayner & Wenger-Trayner, 2020, p. 43). They emphasised that creating value is a process and not an end result (Wenger-Trayner & Wenger-Trayner, 2020, p. 44). The open-ended intent of their theorising of value creation is important for environmental education research.

Lotz-Sisitka (2009) explained that the role of environmental education research is to bring about social and environmental change. This research was able to provide in-depth understanding of mentoring in environmental organisations in order to support initiatives to address the constraining factors and make better use of the enabling factors of mentoring. However, besides the conversations shared earlier in section 6.2 and 6.3, there is the possibility for co-engaged research that makes more explicit use of the value creation framework's learning loops for reflection and exploration of the aspirational value concepts with research participants. Beverly Wenger-Trayner (2017) described the potential of this concept within the framework:

> The addition of learning loops to the framework has implications for facilitators, whose role now extends to becoming experts in designing and creating learning loops across community events. It is these loops that will help develop agile communities, able to learn on the go from successes and failures, and better prepared for taking advantage of the unpredictable.
>
> (p. 35)

Wenger-Trayner and Wenger-Trayner (2020, p. 8) explored the cycles of value creation in more detail than their previous work and for those undertaking co-engaged research, the deeper exploration of "flows and loops to carry value to and from practice" as well as "framing aspirations as a special form of learning" may be a useful methodology for facilitating social learning within research processes for those researchers who aim to make a difference.

6.7.2 Research on mentoring in other contexts

As was discovered in Chapter 2, further quality research on mentoring in various contexts is needed. Besides the Master's of Education study of Fullard (2021), I am unaware of any other similar substantive environmental education research on mentoring taking place in South Africa and globally. In South Africa there are human capacity development initiatives supporting mentoring in environmental organizations and there is great potential to grow this body of work and knowledge as shown in Fullard (2021), also researching Groen Sebenza, but in different case studies. This research only explored mentoring as a value creating proposition in two environmental organisations. It developed an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring in two environmental organisations. There is a need to explore these objectives in other contexts or at a deeper level within organisations as also shown by Fullard (2021). Mentoring is a priority in the mid-term review of the Biodiversity Human Capital Development Strategy (Lewis Foundation & SANBI, 2021). The need for research on mentoring is important to inform and strengthen efforts to address unemployment, such as via the Presidential Employment Stimulus Plan (The Presidency, 2021) which embraces similar principles to Groen Sebenza at least in intention.

6.7.3 Research on mentoring that considers diversity

When reading about the origins of the word 'mentor' in translations of Homer's *The Odyssey*, I was surprised to discover that in the original story it was actually the goddess Athena[12] who disguised herself as the old wise man Mentor and guides Telemachus and enables him to find out what he needs to know, making mistakes and having conversations of reflection with him (Deacy, 2008), constantly correcting, advising and defending him: "I will be with you, truly. Know I stand beside you as we begin our work" (Wilson, 2018, p. 329).

[12] The ancient Greek goddess Athena represented multiple characteristics of warrior, metalwork, horsemanship, navigation, animals, birds, crafts, the maternal, courage, strength, and wisdom. She was often depicted with a shield, helmet and spear as well as an owl (Deacy, 2008).

Figure 70: Telemachus and mentor illustration by François Fénelon for Aventuras de Telémaco by Pablo E. Fabisch (1699) Source: https://en.wikipedia.org/wiki/Mentor_(Odyssey)

This was surprising to me as the vast majority of the published literature on mentoring that I had reviewed in Chapter 2 did not describe the origins of mentoring as involving the role of Athena. Most of the literature on mentoring tells a story that is similar to that of Ehrich et al. (2001, p.3):

> The generic meaning of a mentor is a 'father' figure who guides and instructs a younger person. The meaning comes from Homer's epic, *The Odyssey*, written around 700BC. In his story, Mentor was the friend and servant of Odysseus who became responsible for teaching, guiding and instructing Odysseus' son.

Besides the obvious problematic patriarchal language in the above definition, I felt slightly deceived by the literature on mentoring. More than 400 years after the first English translation, Emily Wilson, a professor of classical studies, was the first woman to publish a translation of *The Odyssey* in English. With renewed feminist energy, I examined her translations as evidence of the role of Athena, disguised as Mentor:

> Then Athena came near him with the voice and guise of Mentor and spoke to him with words that flew like birds: "Telemachus you will be brave and thoughtful…your journey will succeed".
>
> (*The Odyssey* translation by Emily Wilson, 2018, pp. 128-129)

> Yes both of us are smart. No man can plan and talk like you, and I am known among the gods for insight and craftiness. You failed to recognise me: I am Athena, child of Zeus. I always stand near you and take care of you, in all your hardships.
>
> (Wilson, 2018, p. 326)

Like the hidden role of Athena, society has been shaped by dominant patriarchal and western narratives for centuries (De Sousa Santos, 2015). Perspectives and research on mentoring which considers the role and voice of previously marginalised people, social justice, eco-feminism, in contexts of the Global South are important in environmental education research. Engagement with multiple perspectives and practices is a crucial component of social learning (Fullard, 2021; Lindley & Lotz-Sisitka, 2019; Lotz-Sisitka et al., 2015; Wenger-Trayner & Wenger-Trayner, 2015; Olvitt, 2012). Kiara's feminine and caring approach to mentoring in the case study of the environmental NPO raised unexplored questions for me as a researcher, that Sarah highlighted when she expressed interest in understanding feminine and masculine approaches to mentoring (section 6.2), which I have sought to embrace via the immanent critique of HCT and a seeking out of a more social realist understanding of mentoring that reveals the SEPs, CEPs and PEPs of all concerned.

6.8 The contribution of the research to new knowledge

When I started this research, I wanted to contribute knowledge that would make a meaningful difference to the employment of young, black environmental leaders in South Africa. I wanted to improve our understanding of how mentoring young professionals in environmental organisations in South Africa could help facilitate this. Environmental education is about learning to make a difference (Lotz-Sisitka, 2009) and associated with this, the relevance of Beverly Wenger-Trayner's views are important to me as a researcher and practitioner in the environmental education field:

> The question of learning to make a difference is of particular significance to me. I have a long history of theorizing and supporting learning in communities of practice and networks for development. Learning is not just a mental process, it is about how we become who we are as social beings. It is the ongoing changes in our identity and experience of meaningfulness in what we do (or not). Learning to make a difference has the potential to transform individuals, communities, and societies. Today's challenges are complex and things are changing fast. We need models that help us accelerate learning so that we can keep up and stay ahead, collectively as well as individually. I believe, now more than ever, that we should be developing our social learning capabilities to take on these challenges.
>
> (Wenger-Trayner, 2017, p. 36)

Their recent work (Wenger-Trayner & Wenger-Trayner, 2020) enhances the concept of negotiation of meaning (section 2.3.5.1) with negotiation of meaning driven by the will to make

a difference. A Social Realist orientation is imperative to this and is explored further on in this section. I wholeheartedly agree and have experienced this learning to make a difference in my life and in the work that I do. More importantly is that, in our often overly individualistic and divided society, we must rapidly and drastically step outside of ourselves and contribute to transformation of communities and society. Eerily, Lotz-Sisitka (2009, p.173) wrote that "the severity of the coming ecological crisis linked to climate change far outstrips the social justice impacts of any known issue to date, including existing and past economic crises" (Lotz-Sisitka, 2009 p.173). We are currently experiencing a pandemic. According to the World Health Organisation, in November 2021 5.2 million people had died from COVID-19 and there were 257 million cases worldwide, with 2.9 million cases in South Africa. The economic crisis that is and will still be experienced is unimaginable. South Africa's unemployment rate increased to a record 34.4% in the second quarter of 2021 with 7.8 million people unemployed, mostly youth (Republic of South Africa, 2021). We have a social and environmental justice imperative to bring about change and solutions. This research offers strategic insights into the value creation possibilities of mentoring for environmental sector human capacity development initiatives supporting mentoring in South Africa in section 6.4 which can potentially make a difference in tackling these overwhelming crises.

The UNESCO (2015, p.61) report *Rethinking Education: Towards a global common good?* emphasised the importance of efforts to repair the link between education and work to address youth unemployment through "peer-learning, work-based learning (including internships and apprenticeships), on-the-job training, or through other experiences of learning and skills development beyond formal education and training". The value creation possibilities of mentoring in organisations and an in-depth understanding of the factors which constrain or enable the value creation possibilities of mentoring as explored in this study, are potentially useful to these efforts locally and globally. If we do not understand the generative mechanisms that have established the challenges of our time and what works within our organisations and what does not, we cannot collectively develop solutions to overcome these challenges.

Importantly the UNESCO (2015, p.21) report calls for "reconsidering the dominant model of economic development". The concept of value within all major decision making and investment needs to be reshaped beyond only financial value to integrate social and environmental value. Social learning value creation is at the core of this research, explaining how mentoring activities in environmental organisations have enabled unemployed youth to

take up full participation in the workplace with confidence in their corporate agency. Their primary agency has expanded so that they have become fuller agents with workplace agency. The value creating potential for unemployed and disadvantaged individuals is important. Understanding the structural, cultural and agentive factors that enable and constrain the value creation possibilities of mentoring in organisations is an approach that can potentially assist organisations in efforts to support unemployed youth to become workplace agents in the environmental sector, as revealed in this study and also in Fullard (2021). Opportunities for organisations to engage in meaningful, strategic conversations and social learning processes through initiatives such the Ecological Infrastructure for Water Security project (SANBI, 2016a), should ensure that these spaces interrogate dominant models of economic development and the generative mechanisms that condition mentoring practice in such contexts.

This research provides a social realist orientation to human capacity development. South Africa has a history of oppression, inequality and injustice and requires social processes that are reflexive, critical, emancipatory and transformative. Therefore, this environmental education research required theory that could explain mentoring of unemployed youth through Groen Sebenza, as a common good initiative for a more just and sustainable society. Policy informing the development of initiatives such as Groen Sebenza and skills development in the environmental sector in South Africa, while operating within HCT discourse dominated policy landscape, had such a purpose. The Human Capital Development Strategy for the Environmental Sector and Human Capital Development Strategy for the Biodiversity Sector which contributed to the initiation of Groen Sebenza, somewhat implicitly but critically, engaged with the limitations of the existing policy discourse in South Africa and ensured that a systems approach and significant consideration of factors that constrain skills development was embedded in strategy development and implementation. As shown in this study, a Social Realist approach can uncover the underlying generative mechanisms and make the implicit more explicit in such policy and strategy.

In this research, Social Realist ontology, theory and methodology was able to achieve what HCT could not for the objective of understanding the value creation possibilities of mentoring for organisations in the environmental sector. As revealed by the immanent critique, the drivers of inequality, access, policy and skills development would not be considered in an economic theory that is reductionist and views education and skills development as a linear process of investment for the purpose of productivity and economic profitability. Social realist ontology,

theory and methodology provided an account of the interplay of structure, culture and agency over time, through emergent properties and the separation of structure and agency. Thus, avoiding conflation and the limitation of theory of the present tense, with a deeper, ontologically robust explanation of social change.

The value creation of mentoring in environmental organisations viewed through a lens of social processes that are reflexive, critical, emancipatory and transformative is not adequately explained through Social Realist theorising and methodologies. It is also not adequately explained by much of the confusing mentoring literature as determined in Chapter 2. The research used social learning theory as a lens that embraces collective and multiple perspectives and views rather than the one-on-one, hierarchical relationship of early mentoring conceptualisation. The internal cognitive aspects of mentoring, the connection to others as a learning process and the interaction of these aspects within South African environmental organisations was important in the research. The research used the social learning theorising of LPP and CoP and the value creation framework, to reveal how mentoring provides a value creation social learning trajectory for unemployed youth as pioneers. The social realist perspective enabled me to explain how young professionals expanded their primary agency, through full participation in workplace communities of practice, to find their identity as corporate agents in the workplace with their mentors.

6.9 Limitations of the research and implications for scholarship and practice

As mentioned earlier in section 6.7.2 this research only explored mentoring as a value creating proposition in two environmental organisations. The scale and depth that this research offers are therefore limited within the scope of the requirements of a PhD and further research is needed in other contexts or at a deeper level within organisations in order to offer guidelines or recommendations on mentoring in organisations that are more broadly relevant. The research was limited in its consideration of perspectives and research on mentoring which considers the role and voice of previously marginalised people, social justice and eco-feminism, in contexts of the Global South (section 6.7.3). As a scholar with a growing feminist interest and somewhat recent discovery of work that is rooted in Indigenous African ontologies and epistemologies, as well as a recognition of the gaps in both my own and the field's scholarship and practice, I recognise the limitations of the research in exploring the literature in more depth in Chapter 1

and 2. Recent work on education for sustainability from a decolonial South African perspective offer insights into transgressive learning and research (Kulundu-Bolus, McGarry & Lotz-Sisitka, 2021) and Afrocentric areas of convergence on the roles of environmental social work and sociology in climate change interventions (Nyahunda and Tirivangasi, 2021), which could strengthen the practice and scholarship of mentoring in South African environmental organisations. More thorough explorations of capacity mobilisation and relational approaches identified in Mitchell et al. (2020) could offer additional insights of relevance to this body of work and research on mentoring.

6.10 Conclusion

The term 'mentor' originated from the oldest piece of Western literature – Homer's *The Odyssey*, and the story has been inadequately captured over centuries, emphasising how vital deep and immanent critique of existing ways of explaining the world are. Environmental education research on mentoring requires alternative approaches to the separation of society from environment, racial and gender division and inequality, perpetuated by capitalist, colonial and patriarchal orientations. Interrogation of "epistemological assumptions (what counts as knowledge) and ontological assumptions (what it means to be human)" is essential (De Sousa Santos, 2015, p. 12). If our first Western-based ideas of mentoring originate from stories of the goddess Athena having to disguise herself as an old white man, in order to be heard, we really do need more research from the Global South on mentoring as social learning that enables social change, embracing inter-connectedness, diversity and emancipation of the South and for the South. In Southern Africa there exists (often hidden) ways of being, histories and perspectives that relate to the concept of *ubuntu*[13]. In many African languages, *ubuntu* "embodies how we ought to relate to each other" – our humanness (Le Grange, 2012, p. 331) and "is not only concerned about the development of the self in an individualistic way, but that the development of the true self is inextricably bound up in relationships with other humans and non-human nature" (Le Grange, 2012 p. 338).

This research explored mentoring as a social learning process, enabling the emergence of agency from diverse conditions over time in the context of South African environmental organisations, in a way that is not individualistic, but carries the essence of *ubuntu* within it.

[13] Le Grange (2012) adopts the interpretation of '*Umuntu ngumuntu ngabantu'* from the Nguni languages of Zulu, Xhosa or Ndebele. There are further explorations and origins of the concept.

The research addressed the need for more young South African environmental leaders (section 1.1) and therefore the need for an understanding of the value creation possibilities of mentoring for young professionals in environmental organisations in South Africa. The research overall offers insight for strengthening human capacity development initiatives that contribute to the mentoring of young professionals in environmental organisations in South Africa, a cause that is critical to ensuring that future generations and my children may thrive in a warming climate.

> With that, the owl-eyed goddess flew away like a bird, up through the smoke. She left him feeling braver and more determined.
> (*The Odyssey* translated by Emily Wilson, 2018, p. 115)

Pallas Athene by Gustav Klimt (1898)
Source: https://www.gustav-klimt.com/Pallas-Athene.jsp

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APPENDICES

Appendix 1: Pilot questionnaire completed by a former colleague (intern)

Name:_____[redacted]_____

Age:__26 ____Contact Cell:_[redacted]_____Email:__[redacted]_

Place/places of work:_WWF-SA_____

Mentor/mentors:___[redacted]_____

List the work that you have done:

- Ground truthing wetlands in Pongola
- Community mapping in Venda with AWARD wise use project
- Scoping for Wise Use in George which entailed interviews with farmers and a workshop with various stakeholders in the areas to see the feasibility of Wise Use program in the context of commercial agriculture

Who else (other than your mentor/s) has helped you learn in the workplace?

Senior colleagues that I report to and work with have been very helpful in getting some of my tasks done, in a sense they offer daily mentoring on the job as the actual mentor offers mentoring on a broader professional development level

Other interns within the program

Other people that the program works with – I have had a great opportunity to work with other people in the sector that are doing similar work and such opportunities have opened up networks and chances for me to learn from other people outside my workplace.

How would you define mentoring?

A two way relationship that allows the mentee to learn from the mentor whilst the mentor helps the mentee reach their full potential. It is not a 'babying' process, so the mentee needs to be active and take initiative in ensuring that they are getting all that they require from the relationship, and are learning as much as they can from their mentor.

Appendix 2: Informed consent declaration form for interviews and observations

RHODES UNIVERSITY
Where leaders learn

INFORMED CONSENT DECLARATION FOR INTERVIEWS & OBSERVATIONS

Research exploring mentoring as a value creating proposition in environmental organisations

Groen Sebenza is a pilot skills development and job creation programme which aims to catalyse access to employment and job creation in ecosystem management. From 2013, it was envisioned that workplace experience would be gained within your organisation through mentoring, skills development and training opportunities for a period of two and a half years. Therefore the interviews and observations that you will be participating in, are part of a research project that is investigating the value of mentoring in your organisation, with a view to inform human capital development initiatives focussed on mentoring in the environment sector, such as Groen Sebenza.

The interviews involve pre-determined questions as well as questions that have not been determined and are semi-structured. The workplace observations make use of an observation schedule. You may decline to answer questions or participate in observations and are free to withdraw from the research process at any time, without any negative consequences to you or the organisation. The interview and observation sessions will be recorded and transcribed by Michelle Hiestermann, and the data held in a safe place in her office that is not accessible to others. The interviews will contribute towards research informing SANBI's Groen Sebenza monitoring and evaluation and a Rhodes University PhD of Education degree, which is funded by the National Research Foundation (NRF) and GreenMatter and endorsed by the South African National Biodiversity Institute's (SANBI) Groen Sebenza programme. All responses will be treated in a confidential manner and anonymity will be ensured in any publication of the findings. Your agreement will contribute further to the partnership already in place between SANBI and your department.

I [redacted] (full name) ID: [redacted] herby confirm that I understand the contents of this document and the nature of the research project, and consent in participating in the research project.

Signature: .....

Date: 29 - 10 - 2014

Should you require any further information please contact:

Michelle Hiestermann
PhD Researcher
Rhodes University
Grahamstown
073 645 3300
mhiestermann@outlook.com

(Interviewer to keep the original signed copy, and the interviewee to obtain their own copy)

Appendix 3: Questionnaire completed by a pioneer

Research exploring mentoring as a value creating proposition in environmental organisations

Pioneer Questionnaire

Name: [redacted]

Age: 29yrs 07months Contact Cell: [redacted] Email: [redacted]

Place/places of work: Northern KZN

Highest level of qualification: BSc. Degree Environmental Science

Mentor/mentors: [redacted]

List the work that you have done:

Research
Stakeholder liaison (e.g., Community Engagement process)
Administration
Report writing
Report preparation
Field work
Travelling logistics

Who else (other than your mentor/s) has helped you learn in the workplace?

The ecologists from Mkhuze and iThala Game Reserve
Phindile Xulu from Ezemvelo KZN Wildlife

How would you define mentoring?

An instance where a person who has more knowledge and experience in a particular field of career guides you in undertaking your duties in that same field using best practice methods. He does this to prepare you for the workplace.

1

List and give a brief description of other internships or mentoring opportunities that you have been part of:

-DAFF Internship as an EPWP Coordinator managing Alternative Sustainable Coastal Livelihoods projects in all four South African coastal provinces.
-Da Vinci Institute of Technology internship: Did work on Affiliate Marketing. Got exposure to IT work while applying my research skills. I that process, some work has been done.

Briefly describe your experience of mentoring in the last year:

My internship has been largely based orientation into the field. The setting up of our base and introduction to important stakeholders that are interested in the work we are doing.

Give an example of one important learning experience that took place in the last year:

I found that it was a lot and important to be part METT (Management Effective Tracking Tools) analyses for iThala Game Reserve, which was successful. During the METT Analyses, I got to understand all aspects that need to in good order for a typical protected area to function. This has equipped me well as a young scientist.

Describe any challenges in being mentored that you have encountered:

I am trying to keep up with the style of my mentor. I am being introduced to a newly established unit where I am struggling to find my foot. Nevertheless, in each and every stage of learning, I do get a breakthrough. I feel that we don't have exploited all necessary resources that will make this internship more successful than it is.

Appendix 4: Example of an interview transcription

really big problem. And if they also, I guess if they have problems with me, I want them to be able to tell me. That space is often only in like the performance appraisal where I have to coax it out of them but those kind of things… Like this morning [redacted] I'd rather spend three hours going through her performance appraisal nicely instead of just rushing through and doing it as a formality.

So when you are able to spend time with them, you really do make the most of it. Have you received any support of some sorts? What do you think is supporting you to do this? Externally or internally?

[redacted] has been very good, because she's managing all their training and reminding me – she's actually sending me reminders. Because quite often, like at the end of the month when I have to send the register, I just forget. So she's been very patient and supportive.

Has she handled the administrative side of things?

Yes, do you know [redacted]?

Yes.

She's great, and she's also very good with everyone, all the interns. She really talks to them and gets to know them, she's very good at that. And if there are any problems, she'll come and tell me. Like if she knows something about one of them, personally, obviously it depends on what it is – it it's something confidential she won't tell me – but if it's something she thinks I should know, if somebody's having a hard time or something like that, she'll come and tell me. That definitely helps. So if they don't necessarily feel like they can come and tell me, she might tell me and then even if I don't mention it to them, I at least know what's going on which I think is quite good. Feedback from my fellow staff is also good – I mean they all sort of tell me that I'm going a good job so…

That helps.

I don't know that it would change anything – I've always been quite good with….I like to impart knowledge, I really do believe in that philosophy that if you build the people within your organization, everyone benefits and so does the organization. And I've tried to get them to understand that as well, it's not just a case of, "I want to get as far as I can, as fast as I can." You've got to grow with the people around you.

Has there been any training or workshops that've helped you? Or do you think training or workshops or something that helps with mentoring would help or do you think it's more learn as you go?

I think there've been three or four mentorship workshops that SANBI has provided, I haven't been to one of them. The last one that happened, I fully intended to go and then I just couldn't, there was no time. So that's probably been my biggest problem, is that I haven't been able to do that sort of thing.

And internal ones? I know [redacted] had a few.

Yes, she's had a couple. There's another one, I got a message today, there's another one coming up about exit opportunities.

Have those been useful?

Yes, very useful. Very nice, the one we had here with just [redacted], all the [redacted] management who have got interns got together, and that was great because it's internal within out organization so we can discuss organizational problems as well, and different approaches. Everyone has different approaches, and they all have different issues and how do they resolve them and I think you learn a lot from that, you can identify what doesn't work, also helps. And it's definitely, I've learnt by observing how different interns react to being _____, and also from what I've experienced, what does and doesn't necessarily work. So those workshops are good, they're great – so I'm looking forward to this one. And also it's a bit easier because they're here, they're internal, I can get to them – I don't have to go out and spend the whole day somewhere else.