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Learning and Employability in the Environment Sector: A Case of an Internship Programme Implemented by the Department of Environmental Affairs (DEA)

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(Education and Work)

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ABSTRACT

This study was concerned with the concept of employability, which is to a large extent informed by a human capital assumption, which suggests that an educated individual stands a better chance of gaining employment than one who is not. The proponents of the theory assumed that, for a nation to prosper economically and experience improved social welfare, investment in the knowledge, skills and capabilities of the working population is vital. This human capital assumption presupposed that there was a causal relationship between education and work. However, recent studies in countries such as the United Kingdom, the OECD and South Africa have shown that the employer model of employability has dominated employability discourse, defining what employability is and the associated knowledge and skills graduates were expected to possess.

This model of employability had allowed both employers and the government to set the agenda and policy direction. According to Hesketh (2000), large employers have dominated debates about employability and redefined the meaning of skills and the knowledge and personal characteristics needed for employment. Consequently, employability issues were taken on board and embedded into the curriculum to produce a skilled workforce (Clarke, 2008).

Hence, employers, in partnership with the government, developed policies geared to advance their vested interests. In effect, the education-to-work transition studies mostly centred on employer-dominant positions because they had the power to recruit, employ and develop the workforce. Thus, graduates' voices, experiences and perspectives were ignored in transition studies.

According to Sweet (2001), such studies show how graduates use the learning pathways to gain access to employment. Hence, the research on the employability of graduates was based on their perspectives, using the Department of Environmental Affairs (DEA), internship programmes (2013-2016) as a case and how it enhanced their employability.

The study suggests that there might not be a direct relationship between education and work as suggested by human capital theory. Hence, based on the accounts by interns there was no linear pathway, no immediate financial returns as suggested by the proponents of the human capital theory. Furthermore, not all of the graduate interns had benefitted immediately from their investment in education post-DEA internship. This research, therefore, suggests an employability model for future consideration and recommends an inclusive approach. The study recommends that graduates, employers, workplaces, higher education researchers and practitioners across all disciplinary boundaries work together to come up with a common conceptual framework.

Keywords: human capital theory; employability; skills; learning pathways.

DECLARATION

This dissertation is my work. It is being submitted for the degree of Master of Education at the University of the Witwatersrand, Johannesburg. No part of it has been presented for any degree or examination at any other University. All sources quoted have been given due acknowledgement.



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ACRONYMS

Acronym	Definition
DEFF	Department of Environment, Fisheries and Forestry
NDP	National Development Plan
NQF	National Qualifications Framework
SAS	Statistical Analyses System
SETAs	Sector Education and Training Authorities
TUT	Tshwane University of Technology
UJ	University of Johannesburg
USEM	Skills, Efficacy and Metacognition

CHAPTER 1

INTRODUCTION

The discourse of employability remains a contested and complicated terrain. Thus far, several researchers have noted that there is no standard definition of the concept of employability. In the main, the dominant employability discourse is centred on the employer (what employers want) and government perspective (which skills are needed to grow the economy). According to Higdon (2013), in the UK, the state and employers supported the acquisition of skills as suggested by Becker (1993, p. 19), that there are better labour market outcomes when an individual has invested in education. However, this study notes that graduate qualifications might not increase access to jobs.

The study recognises that the dominant employability discourse by employers has disregarded graduate perspectives on employability issues, as argued by Higdon (2013). Here again, one can draw parallels with the situation in South Africa where the employability discourse was determined by employers and supported at a policy level by government and at curricula level by university professionals. This arrangement had ignored the graduate experience and reflections on the curriculum. In addition, this study has noted that graduate employability in South Africa has been under-researched. This study was initiated against this backdrop to revisit the prevailing notions of employability by listening to the voices of graduates who participated in the DEA internship programme during 2013-16. As suggested by Sung and Ashton (2014), internships provide the education to labour-market transition, and it is critical in facilitating access to employment. This study recognises the importance of the graduate perspective and reflections on employability issues that ought to inform the curricula concerning teaching, learning and work. Hence, this study wanted to hear the graduates' voices, experiences and perspectives on the notion of employability. This position was also well

articulated by Johnston (2003 p. 419), who argues that the voice of the graduate has been marginalised.

In addition, this study also noted the ILO and OECD (2017) position that policymakers and universities have to engage graduate employability from the side of the employer and not only from the education side. To this end, Rosenberg and colleagues (2012) support the ILO and OECD (2017) position and suggest that higher education institutions have to accommodate employability and labour market issues in their curricula. Furthermore, the Chronicle of Higher Education (2012) indicates that employers place the highest value on internships as the single most crucial credential in their job search across all industry segments and among all sectors. This view contradicts the perception by some employers that higher education qualifications are not adequate to get a job. It could be argued that the unemployed graduates are now beginning to ask serious questions concerning the value of education, or better still, the financial return associated with university credentials. Notwithstanding all the above, this study concludes that graduate employability cannot be understood without input from all key stakeholders, including the graduates themselves.

This study recognises that there is a case to be made that most graduates still face hurdles in their pathways to access the labour market post-DEA internship. Hence, most of them remain unemployed three or more years after the end of the internship. The overarching question the graduates were asked was " do internships facilitate transitions to work and what are the enablers or other factors" This question was the central focus and sought to elicit views on graduate employability from their perspective concerning the pathways and other mechanisms to find employment. From this study, the internships remain an important education-work transition vehicle to enhancing graduate employability attributes and the chances of finding work. However, labour-

market prospects post-DEA internship were not significantly available to all the graduates in the environment sector, despite workplace experience credentials. As noted by Bhorat (2004), the growing joblessness among people with university degrees has become a disturbing trend in the post-apartheid South African labour market.

This study recognised that there are growing demands for skills; however, the work environment keeps changing *vis-à-vis* education and the provision of skills. The evidence gathered in the study suggests that there are no articulated pathways from higher education institutions to work; instead, there are indeterminate routes that graduates use to access employment. Finally, the study noted that one way in which graduate employability or the relationship between education and work could be understood is by understanding the learning pathways, and this could be achieved by engaging and listening to graduates' voices, experiences, reflections and perspectives. Although pathways are an important dimension, there might not be a direct relationship between education and work, according to Sweet (2001).

1.1 Background and context

The environment is a new area for skills development in South Africa (post-apartheid), as well as a cross-cutting concern. It is poorly represented in the Sector Education and Training Authority (SETA) skills plans. The government has given the Department of Environmental Affairs (DEA), now called the Department of Environment, Fisheries and Forestry (DEFF) the mandate to be the lead agency for the environmental sector and effectively manage environmental assets.

To deliver on the constitutional mandate, the DEA had to address the significant skills shortages identified by the Environmental Sector Skills Plan (ESSP, 2010) that impact

service delivery negatively. These skills are, for example, leadership, scientific, management and technical in all environmental sub-focus areas. Against this backdrop, the ESSP (2010 p. 17) further elaborates that, over the years, it has become evident that the environmental sector continued to find it impossible to use the skills development arrangement as a non-constituent member to any specific SETA. As a consequence, environmental skills development in South Africa was reactive, *ad hoc*, lacked systemic integration and affected service delivery, compliance capacity, public involvement and SA's capacity to develop sustainably. According to Lotz-Sisitka and colleagues (2017), the environment was a cross-cutting issue and had to be integrated into all the sector skills plans. Hence, it was critical for all the SETAs to address environmental and sustainable development issues.

The call by Raworth (2017) to transform our capitalist worldview targeting growth to a more balanced, sustainable perspective that allows both humans and the planet to thrive, has implications for skills development. Lotz-Sisitka and colleagues (2017) corroborate this view and further suggest that: "new skills and retraining requirements for sustainable development and the greening of the economy should be mainstreamed and filter through the demand and supply process". In addition, there should be aligned articulation between sustainable development policy issues and the NQF Sub-Framework (Lotz-Sisitka et al., 2017). It is against this backdrop that the DEA had to lead a capacity-development process to address skills shortages in the environment sector, in partnership with the SETAs and institutions of higher learning. According to Lotz-Sisitka and colleagues (2017), Rosenberg and colleagues (2015) and Maphinyane (2014), the environment and sustainability concerns still have to be integrated across SETA sector skills plans, the Technical and Vocational Education and Training (TVET) colleges and into the new occupational qualifications. A Sector Skills Plans review by

Ramsarup (2017) indicated that SETAs were not putting plans and resources for green skills in place. All of this has an impact on how the environmental sector constructs demand and creates employment. Mainstreaming, therefore, requires environmentally empowered communities and work-based interventions such as internships (ESSP 2010, p. 14).

As a consequence, the DEA, as the lead department, had to keep pace with rapid changes in the environmental sector and create a skills pipeline to build capable employees for the environment. According to the 2015/16 Annual Report of the Department of Environmental Affairs, 100 graduate interns were recruited and paid R5000 per month, meaning that the DEA spent R6 million annually on the implementation of the internship programme to enhance graduate employability.

As Sung and Ashton (2014) have observed, internships programmes are necessary to provide a learning experience that allows for building pedagogical links between the development of theory and practice. In line with this observation, hundreds of graduates with environmental management and science qualifications went through the DEA internship programme, and some were able to secure employment. However, post-internship, several graduates still faced many problems accessing the labour market for years. Most research ascribed graduate unemployment to changing global competition, employer expectations concerning knowledge, technical competence, communications skills and critical thinking. The current study recognises that it would be incorrect to treat employers as a homogenous group sharing a common historical environment, industry, culture, clientele and operating standards, among others. Hence, the study has noted that employer recruitment policies have impacted graduates differently in the environment sector. Therefore, according to Lotz-Sisitka and colleagues (2017),

developing learning pathways will assist in understanding and defining employability, explaining blockages and suggesting possible solutions.

The study, therefore, concludes that internships can be seen as drivers of workplace skills development and can provide a once-in-a-lifetime opportunity to demonstrate graduate employability attributes. However, evidence shows that internships do not guarantee a job or directly enhance graduate employability. The study sought to understand how some graduates rose to the occasion and moved to a new job and what pathways they used. The study recognised that graduate transition to work has to be developed further in the country, and more insight is needed on the transition mechanisms and how they are implemented. The study recommends that more research and further engagement between employers, higher education and graduates are required. According to Lotz-Sisitka and colleagues (2017), working together with all partners is essential and could improve skills development and employability and sustainable development in the environment sector.

1.2 Research purpose

The overarching purpose of this study was to research the concept of employability concerning an internship programme implemented by the DEA between 2013 and 2016. The study intended to generate information which could provide practical insights on the employability of graduates in the environmental sector and provide a deeper understanding of graduate destinations in general. The intended outcome was to comprehend the life-course pathways from a graduate's perspective and how that facilitated transition from a tertiary institution to work. Hence, this study was located in the broader education-work debate to grasp the existing relationship (direct or non-direct) and the innovative ways the transition was made.

1.3 Research questions

According to Leedy (2010), the research begins with an unanswered question in the mind of the researcher and the research questions are used to provide answers to such an investigation.

The overarching research questions were:

- ***How do internships facilitate transitions to work for graduate interns***
- ***What factors enable or constrain interns transitions into work?***

In order to answer the main overarching research question above, the following sub questions guided the study:

i) What type of job did you access after completing the DEA internship?

ii) In which sectors have environmental graduates who participated in DEA internship programmes been employed?

iii) On average, how long did it take for a graduate to find permanent job after completion of DEA internship?

iv) What are the factors which enabled and constrained environmental graduates to access the labour market?

v) How can participants in the internship programmes be better supported to increase their employability?

1.4. Significance of the study.

This research sought to examine the concept of employability and how graduates transition from education to work. The study can make the following contributions:

- Provide insight and enrich our understanding of employability in the public service and environment sector.

- Advance the frontiers of knowledge concerning the relationship between education and work.
- Assist the DEA to improve its internship programmes.
- Help to create systemic pathways for the environmental sector.
- Generate interest in the field.

Thesis Outline

This section is organised as follows:

Chapter 1: Introduction

This section provides an overview of the concept of employability and the role played by important employability stakeholders.

Chapter 2: Literature Review

This chapter consists of three interrelated parts, the conceptualisation of employability models, theoretical underpinnings and learning pathways. Furthermore, the chapter discusses human capital, the job market signalling theories, and the two employability models, namely, the CareerEDGE model by Dacre and Sewell (2009) and the USEM model offered by Yorke and Knight (2004).

Chapter 3: Research Design and Approach

This chapter summarises the design and approach followed in the study. This includes methodological choices, data collection strategies, samples and methods employed.

Chapter 4: Results

This chapter presents data analysis and results of the survey and interview processes. Furthermore, it discusses findings as outcomes of the research project.

Chapter 5: Main Findings and Conclusion.

This chapter provides an interpretation of the findings and discusses how they corroborate the literature. Furthermore, results are discussed from the graduate's perspective concerning the relevant theory and employability models.

The last section of Chapter 5 draws conclusions based on the research findings and suggests areas for future research.

CHAPTER 2

LITERATURE REVIEW

A literature review has been an important milestone in my research journey because it has assisted me in selecting available and relevant scholarly documents, both published and unpublished, on employability and written from different standpoints relating to graduate transitions. Just as Belle (2005 p. 3) contends: "...a researcher cannot perform significant research without first understanding the literature in the field ... it must build on and learn from prior research and scholarship on the topic". I used the literature review as an essential tool to build my conceptual framework for employability.

The concept is increasingly becoming a popular and complex construct. It is complex because the concept has different definitions and is applied in a range of contexts, which has numerous individual interpretations. It could be argued that, although much research has focused on employability, the literature suggests that its meaning is not universally accepted. This literature review, therefore, seeks to examine different conceptualisations by referencing a wide range of literature which covers theoretical perspectives to develop its conceptual framework.

The discussion below outlines some of the main theoretical ideas that have shaped this study and consist of four interrelated parts namely, the conceptualisation of employability, theoretical underpinnings, the importance of learning pathways and the relationship between education and work.

2.1 Defining employability

2.1.1 Grappling with the conceptualisation of the concept

Recent literature suggests that there are different interpretations of the concept of employability due to various approaches adopted by researchers. There is no

agreement on the actual meaning of employability because it means different things depending on the context. Harvey's definition relates more to "ability" than "employment" (2005, p. 13). The author argues further that: "...employability is the propensity to exhibit attributes that employers anticipate will be necessary for the functioning of their organisation" (p. 4). Clarke (2008) agrees with the definition offered by Harvey (2005).

Yorke and Knight (2006) suggest that employability relates to: "...having a set of skills, knowledge, understanding and personal attributes that make a person to secure a job." Furthermore, they see employability as a complex process influenced by individual and societal orientation. However, writers such as Holmes (2006) and Rothwell (2007) conceive it not so much as possessing specific characteristics, but rather as a journey that an individual undertakes to the labour market. Dacre and Sewell (2007) and Yorke and Knight (2006) both agree that possessing a range of desirable characteristics does not provide certainty because various external socio-economic variables impact employability.

Hillage and Pollard (1998) expand on the framework of Yorke and Knight (2006) and suggest that employability needs to include a labour market orientation as a factor beyond individual achievements and abilities. They distinguish the critical components of employability as assets, deployment, presentation, securing an appointment and demonstration. These components function at the individual as well as the external level. These socioeconomic variables are regarded by Tomlinson and Holmes (2016) as the backbone of employability theory and emphasise the influence of society, as well as the role of gender and ethnicity as denominators of employability.

Lees (2002) takes the Yorke and Knight (2006) framework and corroborates two main aspects, which are possession and being capable of employment. On the contrary,

Bridges (1993, p. 50) reflects on the employability construct as being much more complicated as it implies being able to adapt skills to different situations.

Researchers such as Trevor (2001) build on the Yorke and Knight (2006) framework and introduce the notion of social capital, which relates to who you know, the connections and social networks one has in the labour market. They distinguish between factors that prepare an individual for the labour market and factors that qualify an individual to retain a job, maintain employment and be able to move around.

Some authors, such as Ashton and Green (1996), suggest that the concept of employability could also be explained from the perspective of a skills formation system. The authors refer to the Anglo-Saxon approach, which contends that the market determines the supply and demand for skill. The Asian Tiger approach is different, where the government plays a central role in the coordination of the labour market and influences both the demand and supply of skills (ibid). Tomlinson and Holmes (2016, p. 3) agree with this and explain that employability is located in a country's labour policies that serve as a trigger for economic growth and improvement of graduates' economic potential. From the perspective of industry, education is not everything that matters. It is the extent to which these employability assets are applied to serve employers and customers (Confederation of British Industry, p. 1). In light of the above reflections, it could be argued that the views of the employer and government view have dominated the employability debate.

Employability' refers to the competencies and abilities that graduates need to enhance employment opportunities in the labour market, as well as the economic and social development of the country (Phago & Thwala, 2015).

Higher education is perceived by many people as a pathway to enhance employability (Adrian, 2017). However, it is not a guarantee to secure employment and only improves the chances of employment (Lourens, 2016).

According to Reddy and colleagues (2016), student enrolment in South African universities has increased significantly and, unfortunately, unemployment has as well, especially among university graduates (Edayi, 2015; Mncayi, 2016). As a result, there is an oversupply of graduates in the labour market compared to the job opportunities available (Artess et al., 2017).

3. THEORETICAL UNDERPINNING

In the discussion below, some of the main contours of the theoretical ideas that shaped this research are outlined. This section provides theories underpinning the study, and both are discussed and considered.

3.1 The human capital theory.

The chapter discusses the Human Capital and Job Market signalling theory. Recent research by Brown and colleagues (2001) suggests that the policy discourse on employability is concerned with graduate labour market supply and demand. According to Becker (1964), the human capital theory claims that investment in education increases productivity and generates good earnings for individuals who have invested in university education and have obtained the desired skills, knowledge and attributes. In other words, human capital theory concerns itself with knowledge, skills and attributes (Schultz, 1961; Becker, 1964). Hillage and Pollard (1998) support the view that investment in education increases an individual's knowledge. Therefore, it could be

argued that education translates into assets or capital, which fosters employability and possibly increases productivity, economic growth and prosperity.

While a range of employability studies linked to the human capital theory suggests better returns from investment in education, Little (1986) argues that, despite all the investment in education, there are uncertainties in the labour market and the demand for labour and supply of goods and services is unpredictable. In light of the above, it could be argued that investment in human capital may not necessarily enhance employability and depends on several variables. To develop this argument further, DeFillippi and Arthur (1994) relate to social capital as an important factor that improves access to job leads. Richardson (1986, p. 52) agrees that individuals who are well known, have the social capital and are sought after by employers and worthy of being known for their social capital have improved access to employment (p. 52). In summary, Schultz (1961) suggests that human capital theory forms a basis for employability and is needed and rewarded by employers and is vital for economic growth (Becker, 1993).

There is growing interest by higher-education institutions to assume greater responsibility for the development of human capital or employability assets. According to Hillage and Pollard (1998), graduate employability can only be applied in the labour market and, together with social capital and personal conditions, are essential considerations in the labour market.

3.2 Job Market Signalling theory

Spence (1973) suggests that employers are looking for signals to assist them in recruiting potential employees. Signalling theory deals with the idea that a potential employee shares information about him or herself with the employer. There is an asymmetry of information in the relationship between potential employee and employer, and the employer has to rely on specific signals to make a decision. The author,

therefore, argues that signal theory is based on the premise that employers have to make an investment decision when hiring new employees (Spence, 1973). This is particularly the case during recruitment when employers have to rely heavily on the available information presented by the potential employee. The information presented by an employee, including educational credentials, assist the employer in making judgments on the ability of the employee to respond to the needs and expectations of the employer (Stiglitz, 1975). The author contends that educational credentials are a mere representation of the abilities possessed by a potential employee. The signals, coupled with employer perceptions and beliefs, are essential considerations in the recruitment of graduates.

4. EMPLOYABILITY MODELS

Below is a discussion of a model put forward by Yorke and Knight (2004), called the Understanding, Skills, Efficacy and Metacognition (USEM) and the Career-EDGE model offered by Dacre Pool and Sewell (2007). These two models were chosen because they simplify and assist in explaining the various employability components and their relationships. Both models were developed to help lecturers teach the concept of employability to students.

The USEM model offered by Yorke and Knight (2004, p. 5) relates to knowledge of the subject possessed by students, skilful practices, student's personal qualities and self-awareness and reflection capabilities. The USEM model and the abovementioned components are used to promote good teaching practice.

USEM Model: A framework for graduate employability.

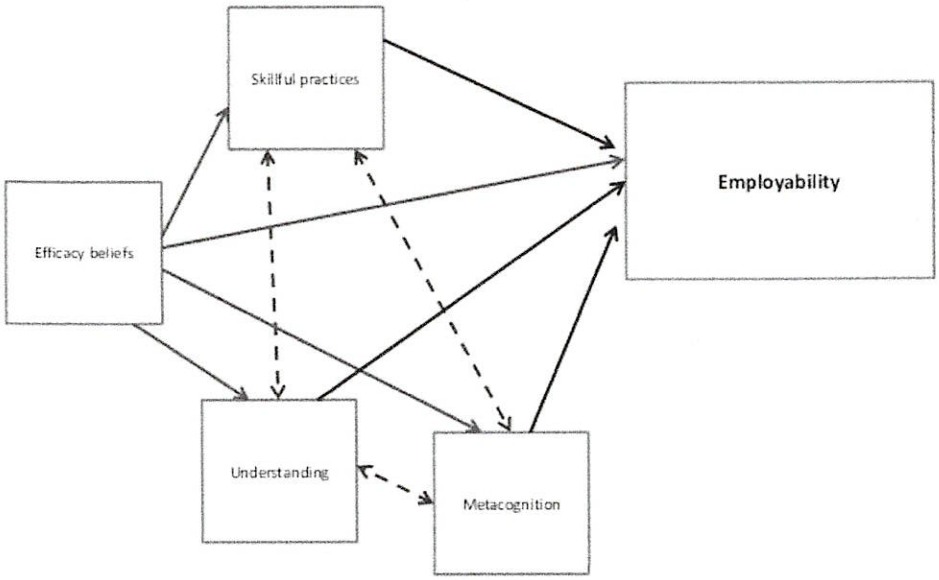

Figure 1 (a): USEM model (Knight & Yorke, 2003)

The authors Yorke and Knight (2003) suggest that employability consists of assets which are:

- knowledge of the subject;
- skilful practice;
- student's personal qualities;
- the capability of self-awareness and reflection.

Ideally, this model suggests that a graduate has to develop, possess and demonstrate those assets or attributes to enhance his or her employability. According to the authors, these four components are inter-related and have to be put into practice in varying contexts (Ibid, p. 37).

The model below in Figure 1(b) by Dacre Pool and Sewell (2009) is called the CareerEDGE model and builds on the USEM Model. The authors explain that the model was developed to simplify the USEM model.

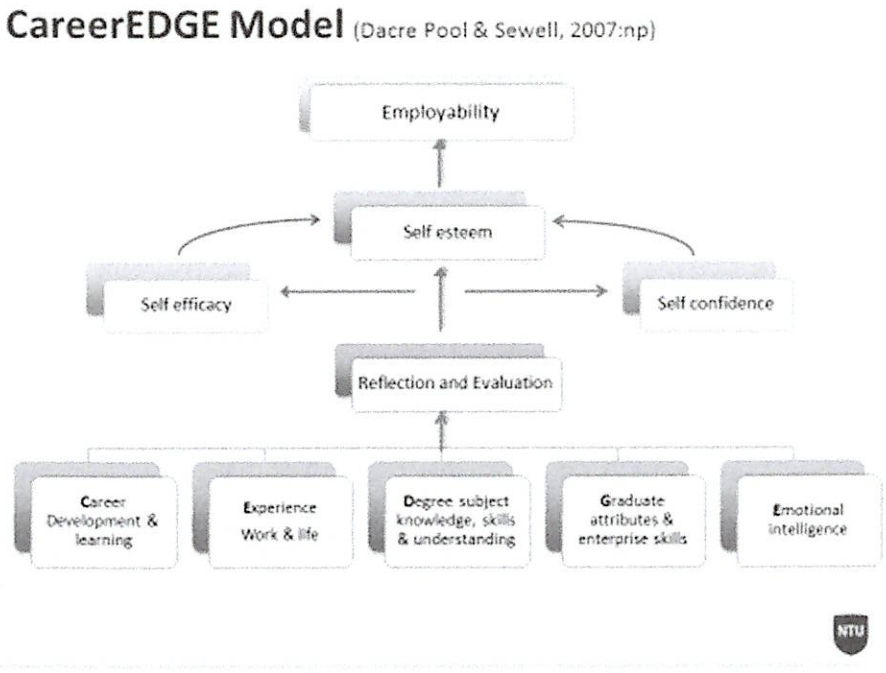

Figure 1(b): Dacre Pool and Sewell (2007, p, 281)

The authors state that the CareerEDGE Model is divided into two essential overlapping and interlinked departments, namely CareerEDGE as the lower tier and Reflection and Evaluation as the second tier.

i) CareerEDGE as the lower tier.

What follows below is an attempt to explain the CareerEDGE lower-tier components. Thus, to enhance employability, students have to develop the following:

a) **Career development and learning:** This component of the model focuses on the career development of individuals to advance their job prospects. Career development enables students to learn and grow their career prospects.

b) **Experience - work and life:** This component relates to work experience, which is vital to employability. This component further suggests that work experience allows the employees to realise their full potential by more practices.

c) **Degree subject knowledge, skills and understanding:** This is the main component of the model and places emphasis on qualifications as crucial in increasing employment opportunities. Recent research suggests that the reason for pursuing higher education is based on the desire to get a better job because employers want to benefit from the use of knowledge required in an occupation.

d) **Graduate attributes and generic skills:** According to Du Preez and colleagues (2012), "key competencies", "basic skills", "core skills", and "key skills" that are "transferable skills" are needed in occupations. For this model, Becker (1975) argues that generic or transferable skills are required inside and across organisations and are, therefore, critical to employability. This claim is supported by Bennett and colleagues (1999, p. 76) who maintain that generic skills increase graduate employability and promote career prospects.

e) **Emotional Intelligence**: According to Mayer and colleagues (2004, p. 197), emotional intelligence suggests the ability to perceive, obtain and produce emotions to generate thinking. It is, therefore, important that graduates develop their emotional intelligence.

What follows below is an attempt to explain the CareerEDGE second-tier components.

ii) Reflection and evaluation.

The authors contend that two concepts, reflection and evaluation, are separate but related. My understanding is that reflection relates to a process of reflecting on the experience, actions and decisions taken. On the other hand, evaluation is regarded as

a process of making judgements about an experience or a person. According to Billet (2011), reflection helps students or organisations reflect on experiences and attempt to resolve them. According to Moon (2004), both reflection and evaluation are important aspects of the model, as they link current experience to previous learning and assist students in unlocking aspects of employability.

iii) The Three Ss.

The three Ss are discussed below, and, according to Bandura (1995), they are all interlinked and their constituent elements overlap.

Self-efficacy refers to belief in one's capabilities in a particular situation and that graduates who possess some elements of self-efficacy have that self-belief (Bandura, 1995, p. 285).

Self-confidence refers to a sense of "presence" and suggests a belief in one's capabilities. Thus, graduates who believe in their abilities are more likely to succeed, and that can be seen from a person's manner and behaviour (p. 68).

Self-esteem refers to the perception of oneself and a belief in one's ability to do well and succeed.

Dacre (2007 p. 281) sums up by saying that, once students have developed these five components: "...reflecting on and evaluating these experiences will result in the development of higher levels of self-efficacy, self-confidence and self-esteem – the crucial links to employability".

In summary, the author claims that the CareerEDGE model is designed in a way that reflects the interdependence and overlapping between constituent elements at various points.

5. DEBATE BETWEEN EDUCATION AND WORK

5.1 What is the relationship between education, skills and work?

This section is about the debate on education and labour-market outcomes and whether there is a direct relationship or not. This debate is a very complex and contested terrain with a vast body of research. The discussion which follows is an attempt to illustrate different positions and claims by various researchers. Despite the divergent views held by researchers, it could be argued that both education and skills are intrinsically linked to the notion of employability, as previously discussed.

In this section, the relationship between education and work is discussed from three different fronts:

(a) the role of education and skills as human capital necessary for preparing people for paid work,

(b) the interaction between education and employment, whether there is a direct relationship or not, and

(c) the role of other educational and learning processes and how they impact employability.

As pointed out in the previous section, education and skills are seen as human capital that is crucial for employability. Most research studies have linked the relationship between education, skills and work to human capital assumptions or job market signalling theory (Schultz, 1961; Spence, 1973). The proponents of the human capital theory suggest that human capital increases employability and generates good earnings for individuals who have invested in university education and obtained the desired qualifications (Schultz, 1961; Becker, 1964). The relationship between education and work brings the role of the university in the provision of knowledge and skills into focus.

Some researchers, such as Teichler (2000), argue that education is a capital that relates to work and is therefore important to enhance a graduate's employability. The author contends that higher education increases an individual's opportunities for employment, hence the centrality of universities in providing education and skills linked to the country's economic policy position.

This position is reaffirmed by Atkins (1999), who explains that higher education in itself cultivates learning and has to provide educational assets for individual employment and economic growth. Some academics believe in the independence of the universities and see their role as being to produce knowledge and not to supply graduates to employers as workers. According to Allais (2014), this relationship between education and work is much more complex and contested. It could, therefore, be argued that both are intrinsically related to the notion of employability. However, the debate ignores other factors that individuals face after obtaining the desired qualifications to strengthen their labour-market position. According to Gamble (2016, p. 216), the relationship is complicated, and there is no causal or direct relationship between education and work. The two are distinct or independent domains operating on three different levels:

(i) the macro-systems level and how it influences regional and national education initiatives

(ii) the middle-level and how it influences the micro-level (workplaces) and what has to go into the curriculum and the micro-level, and

(iii) the low level, how learning takes place in academic institutional education and workplaces.

Employers embrace the competence-approach, which is task-based and disaggregate work in the curriculum.

The above debate shows how complicated the relationship between education and work is and helps us to appreciate the dynamics and tension that may impact notions of employability in the study (Gamble, 2016).

5.2 Grappling with the concept of skill. What is a skill?

The notion of skill, just like education, is linked to the human capital theory, and the underlying assumption is that education leads to employment. Several articles in the literature suggest that the concept of skill is hardest to define because it varies, and there are different definitions and interpretations among writers. According to Green (2011, p. 21), skill is a concept with no consensus as to what exactly it refers. It is a slippery concept, not easy to define and its meanings range among writers from different disciplines and among common usages. Winch (2011) agrees and confirms that skill is a concept that differs in significant ways across countries, while Braverman (1974) suggests that the concept of skill is a social construction, as it is embodied in particular occupations.

Most sociologists agree that it is a politically constructed social construct (Tilly, 1988, pp. 452-3). The author argues that the notion of skill is an identity that evolves by a bargaining process between employers and unions. Hesketh (2000) developed the argument further and contends that large employers have dominated debates about employability. They have influenced the definition of skills and added personal characteristics as employability factors. It could, therefore, be argued that the role of employers in redefining concepts such as skills and education invariably had implications for how they sought to recruit graduates.

The assumption to be made here is that qualification under the circumstances is secondary, or better still does not matter as far as employers are concerned. According

to Allais (2012), the term *skills* in South Africa refers to the training that happens under the sector education and training authorities (SETAs). Given the historical connection between South Africa and the UK, the term "competence" is also embedded in the National Qualification Framework. It relates to skills that are mostly independent of each other and disconnected from genuine work contexts (Allais, 2012).

To this extent, Allais (2012, p. 635), contends that the conception of skills under the SETAs is not aimed at an occupation, but rather at developing competencies in fragmented labour processes comprising "discrete work", "tasks" or "jobs". In other words, these "skills" or "competencies" are not focused on organised work, but on the accumulation of tasks that are offered in modular courses and are mostly independent of each other (Allais, 2012). Thus, the notion of skills in this context is disconnected from genuine work contexts (organised occupations) and vocational qualifications (Winch, 2011). Gamble (2011), as cited in Allais (2012), suggests that this disconnect fails to understand that practices are always knowledge-based. Therefore, there is no separation, but rather different relationships between a knowledge base and a practice (Allais, 2012, p. 640). Allais (2012) concludes that Gamble's argument implies that there is no such thing as 'skills', only different relationships between a knowledge base and a practice (Gamble, 2011, p. 640).

According to Lauder and Brown (2006), the notion of skill is not value-free; it is socially constructed. These authors argue that the concept of skill (using competence as proxy) is conceptualised and utilised differently in different organisations and societies. Webster (1985) corroborates that the notion of skill is socially constructed and embedded in a particular set of values. The author makes the point that the idea of skills in South Africa was manipulated and used by the apartheid regime to promote skill

formation along racial lines, which left the majority of African people as low-skilled workers.

Against this backdrop, Maurice and colleagues (1986) distinguish between embedded and non-embedded skills to make the point that skills are produced socially by an interplay between cultural, social and economic factors. The non-embedded skills are employed in a globalised economy to create opportunities for capitalist investment, for example, investments by multinational companies in countries where raw materials are cheaper, and costs of skills can be kept low. The argument by Maurice and colleagues (1996) that skills are socially constructed is supported by Brown and colleagues (2001) and Ashton and Green (1986). Finegold and colleagues (1990) contend the claims in the high skills thesis that globalisation and technology will increase the need for a new skilled workforce. In their critique of the high skills thesis, Finegold and colleagues (1990) argue that, from an institutional approach, the proponents of the high skills thesis have failed to appreciate its location in broader societal issues. To add to that, Braverman (1974) suggests that scientific management displaced workers and de-skilled them for management to minimise educational and skill requirements.

Brown and colleagues (2001) agree that technological changes may not necessarily impact education and training. Kaplinsky (1995) concurs that what matters is a joined-up or cross-sectoral policy coordination and institutional complementarity. Gamble (2016) elaborates further that what should be at the centre of curricula is neither disciplinary knowledge (education) nor skill (competence) but that the analysis of the requirements of work (labour process) should be translated into educational practice. In conclusion, Lauder and colleagues (2006) argue that the notion of skill is not value-free; it is socially constructed and is used differently in different organisations and societies.

5.3 Why learning pathways are important

Recent transition studies have shown that one approach to grasp the connection between education and work is by learning pathways or transition studies. According to Wheelahan (2009, p. 6), the purpose of pathways is to ensure that individuals navigate different types of qualifications and occupational sectors with ease. It could be argued that the "learning pathway" concept is applied commonly to educational experiences beyond the schooling system, such as internships, apprenticeships and community service projects. These experiences serve as pathways since they are a mechanism to redress the transition of graduates to work, by enhancing their employability.

According to Allias (2012, p. 3), transitions or pathways relate to a myriad of education-to-work transitions and between full time and part-time work. In other words, a learning pathway is a route constructed by an individual to navigate life via formal and informal education training programmes in diverse settings.

Harris and colleagues (2006) suggest that a learning pathway should be seen as a journey of learning or intricate patterns of movement that lead somewhere. Lotz-Sisitka and colleagues (2017) confirm that learning pathways for sustainability have the potential to address the historical injustices of the past. Harris and colleagues (2006) explain that knowledge and skills acquired in a learning pathway should be recognised regardless of how or where students gained them, precisely to address past injustices. Ramsarup (2017) adds that transition to work is a process not an event and, therefore, it is vital to understand the educational and occupational progression as crucial to learning pathways. Thus, environment and sustainable development learning pathways need to be viewed as complex and impacted by interdependent forces (SAQA Bulletin, 2017).

According to Raffe (2003), the term pathways defines a long transition which would enhance employability and include social forces that shape youth transitions. Lotz-Sisitka and colleagues (2017) agree concerning the current National Qualifications Framework (NQF) that configuration of learning pathways would enhance redress and allow individuals to move across several sub-framework qualification boundaries. Against this backdrop, it could be argued that learning pathways raise profound systemic questions in the environment sector as to how the NQF supports the articulation of environmental qualifications across the system.

Thus, the learning pathways discourse fits well in this study as part of the broader education and work debate. The lessons that have surfaced from this study will help to strengthen environmental pathways systemically.

6. PROPOSED EMPLOYABILITY MODEL: GRADUATE PERCEIVED INTEGRATED MODEL OF EMPLOYABILITY

This section presents a proposed integrated model of employability as shaped by both the literature review and graduate's experience and perceptions of employability. The proposed integrated model of employability helped to shape the proposed employability model and seeks to respond to the overarching research question: "***How do internships facilitate transitions to work for graduate interns and what factors enable or constrain interns transitions into work?***

The integrated model of employability is built on the USEM Model (Knight & Yorke, 2003) and the CareerEdge Model (Dacre Pool & Sewell, 2007). It advances the discourse on the dynamic interplay between the various factors of employability and advocates for a unified and integrated overview of employability conceptual frameworks.

Maxwell states that a model is: "...something that is constructed, not 'found', 'built', not something that exists ready-made" (1996, p. 35). It is further explained by Miles and Huberman (1994): "explains, either graphically or in narrative the main things to be studied, the key factors, concepts or variables and the relationship amongst them". The conceptual framework is based on the discussion of the main findings and the literature review covered. It is constituted by six factors that are interrelated and have an influence on graduate employability. Below is a discussion of the proposed integrated model of employability composed of different crucial elements and how they might influence and reinforce each other to enhance graduate employability.

They are:

- Globalisation and technological advancements
- Human and social capital
- Personal circumstances
- Transition system
- Labour market
- Employer factors

The conceptual framework discussed below provides an insight into the important constitutive elements of these factors and how they relate to employability. The discussion does not necessarily follow a particular order or logic. In essence, all these factors are interconnected and interact with each to constitute an employability matrix that either enhances or constrains graduate employability.

6.1 Globalisation and technological advancements

According to Moleko (2006), the graduate labour market should be viewed in the context of developments occurring in the general labour market. The study recognises the impact of globalisation and technological advance on graduate employability. As a result of technological advancement, the nature and organisation of many jobs have changed, requiring new and upgraded skills and creating broader opportunities for graduates in the labour market (Ibid). This had serious implications for employability as traditional ways of accessing and staying in a job changed, following changes in employers' recruitment practices. Alongside this, technological advances and global economic forces have driven the demand for graduate knowledge and skills in a wide variety of jobs (Moleko, 2006, p. 87).

The World Economic Forum (2016, p. 3) highlighted the possible "disruptive changes to business models" that could impact the employment landscape over the coming years. Today there is a shift to new employability skills and attributes in the ever-changing demands of work. Thus, globalisation and technological advancements impact the labour market and have implications for employability skills.

6.2 Labour market issues.

Linked to the global economic shifts is the labour-market factor, which is also related to graduate employability. According to Campbell (2000), the labour market is a significant component of any economy and is intricately tied to globalisation and technological advancement. In this framework, the labour market provides a space for both the job seekers to supply and sell their labour and for employers to articulate their demand for labour. Hence, the labour market takes care of the supply side of employability and the

demand side of employment. It is therefore essential that graduates are informed about the relationship between globalisation and how it impacts local labour-market conditions, legislation and regulations. As stated by Campbell (2000), labour-market information is an excellent tool for employability and impacts directly on job seekers. In his study, Mncayi (2016) highlighted that, among other factors, graduates perceived a lack of labour market knowledge as a reason for their employability.

6.3 Investment in education and training

The conceptual framework is anchored on the assumption that knowledge, skills and attributes, including social networks, foster employability. This factor lies at the heart of the human capital theory. It is corroborated by Yorke (2006) and Hillage and Pillard (1998), that investment in education and training enables an individual to acquire assets which influence employability. Thus, to secure and perform a job, or manage a transition in one's career, it is important to acquire these employability assets first and then deploy and present them in the labour market. In addition, establishing and strengthening informal social networks is crucial to employability for new entrants in terms of job-lead opportunities. Thus, investment in education and training remains an important feature in graduate employability and warrants attention.

6.4 Transition system

The study notes that merely having employability assets (that is, knowledge, skills and attitudes) is not enough for an individual to navigate the labour market. Graduates need information about the existing institutional arrangements that link education and training, the labour market and production systems that foster interrelationships to enhance

employability. For example, graduates may need usable intelligence about the labour market options available to them to overcome the job barriers. Iannelli and Raffe (2007) suggest strong linkages with both employers and vocational education and shared roles in the design, delivery and assessment of vocational programmes. It could therefore be argued that, if a transition system exists with strong linkages, it could enhance graduate employability. Hannan and colleagues (1996) suggest that the strength of the institutional links between education and the labour market is a crucial dimension of transition systems.

6.5 Employer factors

Linked to the factors above is the part played by employers in the recruitment of graduates. While the knowledge, skills and attributes are crucial to both employers and employees, the attitudes and behaviour sometimes displayed by large employers influence graduate employability (Adams et al., 2000). The employer has the power to employ, retain and develop employees with varied skills and may be skewed in favour of certain groups of graduates from preferred institutions (Gibb, 2004). Adams and colleagues (2000) agree that most employers recruit among students who have had some work experience and possess relevant skills.

6.6 Personal circumstances

The study notes that the personnel circumstances of a graduate may enhance or constrain the prospects of accessing a job. An individual's circumstances which may include, caring responsibilities, disabilities, work culture and individual aspirations can

all affect their ability to seek different opportunities, as explained by Hillage and Pollard (1998, p. 3).

Depending on the personal circumstances, an individual may proceed either to further education and training in different settings or enter the labour market.

In conclusion, the conceptual framework discussed above is structured around six factors and informed by the discussion of the main findings of the study and the literature review. The employability factors do not follow a particular order, as explained above; however, all the factors are interrelated and are part of an employability mix.

7. WHY THE STUDY IS IMPORTANT IN THE ENVIRONMENT SECTOR

The study is important in the environment sector because such a study has not been conducted before. It is intended to generate information that could provide practical insights on the employability of graduates in the environment field and provide a deeper understanding of graduate destinations. The study is located in the employability of graduates as part of the broader education-work debate. What has surfaced from this study will help strengthen the systemic pathways to employability in the environmental sector.

In addition, the National Development Plan (NDP, 2012) of South Africa seeks to eliminate poverty, deliver environmental protection and promote economic development by 2030. This task is enormous and, therefore, there is an urgent need to create jobs for graduates, the unemployed and the unskilled in the environment sector. It is, therefore, critical that the DEA provides new and innovative opportunities to create youth employment to manage the environment effectively. Lotz-Sisitka and colleagues (2017) confirm that more research on learning pathways for sustainable development

in the context of the NDP (2012) and the current NQF (2008) configuration would ensure that individuals can move across several sub-frameworks qualification boundaries. Environment and sustainable development issues are increasingly integral to social and economic development and, therefore, articulation can link qualifications, learning and work using pathways to enhance graduate employability.

More research on learning pathways is, therefore, needed. According to Tymon (2013), student awareness concerning employability is often overlooked and remains an unexplored yet essential perspective in South Africa (Chiwara, Chinyamurindi & Mjoli, 2017).

According to Maharaj (2015), calls have been made to understand student perspectives on aspects of employability and how it links to skills acquisition (Kaliika, 2011). It is essential for graduates, employers and higher education institutions to consider student voices as important partners in the production of knowledge, skills acquisition and utilisation. Hence, this study is so important in the environment sector to assist graduates to express their views and perspectives concerning their particular destinations.

CHAPTER 3

RESEARCH DESIGN AND APPROACH

Recent literature suggests that there are a variety of ways in which research can be conducted (Sim & Wright, 2000). This section provides an overview of the theoretical framework for understanding how the data was collected, analysed and interpreted to answer the research questions. This work is being shaped by a post-positivist, qualitative and descriptive quantitative analysis of data.

3.1 Paradigmatic perspective.

As I navigated through the debate about research methodologies, I had to contend with the concept of paradigm, the role and its importance in a research process. In the main, I was also confounded by the extent to which different authors and researchers assigned different meanings to Thomas Kuhn's (1962) notion of paradigms. Initially, I found it difficult to characterise. However, following a review of the literature, I could understand the concept of paradigm, its relevance and its importance in social science research which helped to shape the choices made concerning research methodology, design and methods.

Kuhn (1977) defines it as: "the set of common beliefs and agreements shared between scientists about how problems should be understood and addressed". The study builds on Kuhn's (1977) foundation and further expands with an understanding that paradigms imply values and assumptions. In addition, the study was guided by the works of Guba (1990), who defines research paradigms as representing a worldview and how it is characterised. In line with this characterisation of paradigm, as a researcher, I needed

to locate the social phenomenon under a investigation within a broad understanding of paradigmatic perspectives.

Against this backdrop, I was persuaded that "paradigm issues are crucial; no inquirer, ought to go about the business of inquiry without being clear about just what paradigm informs and guides his or her approach" (Guba & Lincoln, 1994, p. 116).

According to Gringeri and colleagues (2013), paradigms influence the research method, instruments used and interpretations, and it is essential, therefore, to state the research paradigm. Some writers, such as Creswell (2009) and Neuman (2011), suggest that a paradigm is a way of seeing a social phenomenon and framing it. Both authors emphasise the need for the research to be stated categorically and emphasise the importance of questioning the research paradigm, its influence on the study and how it is framed.

Denzin and Lincoln (2000) assume that paradigms are seen as human constructions about reality. In an attempt to answer the overarching research question, ***How do internships facilitate transitions to work for graduate interns and what factors enable or constrain interns transitions into work?***

Against this backdrop, this study, is shaped by a post-positivist, qualitative and descriptive analysis of data.

3.2 Research methodology

Babbie (1998) used the concept of research methodology to refer to a systematic, purposeful framework for operationalising the conceptual core of a research project, concerning the procedures followed to collect and analyse data. This chapter builds on the paradigmatic perspective in the preceding section and focuses on research methodologies and the basis for selecting the most suitable approach.

Elements of both the quantitative and qualitative approach in the design of the research were selected for this study because both offer a chance to generate the in-depth data required. In addition, the rationale for choosing a mixed-methods design was guided by pragmatic considerations rather than merely adhering to one particular methodological approach and adhering to it to the exclusion of the other. Guba (1981, p. 76) states: "it is proper to select that paradigm whose assumptions are best met by phenomena being investigated". Although my ontological and epistemological orientation informed the methodological choices and how the research was to be conducted, a mixed methods research design allowed the study to move beyond both the purist (quantitative and qualitative) debate and avoided contestation, with: "...one paradigm professing the superiority over the other" (Sieber, 1973, p. 1335). Therefore, in this study, the mixed research problem has the potential to provide different kinds of information about the concept of employability from the intern's subjective experience.

Maree and colleagues (2010, p. 260) corroborate the view that different methodologies can be applied to study the same problem, even though they may differ in how they gain knowledge and the research questions they address. Creswell (2003, p. 22) stated that: "A mixed methods design is useful to capture the best of both quantitative and qualitative approaches". Onwuegbuzie (2015) sums up that the goal of a mixed methods research design is to draw strengths and minimise the weaknesses of both in single research studies. Furthermore, the author contends that both methodologies were used in the study not to replace either but to provide a bridge between them (Onwuegbuzie & Leech, 2004a).

4 RESEARCH DESIGN

4.1 Mixed methods research design.

According to Kerlinger (1986), a framework used to gather answers to the research question is called a research design. The focus is on a plan, structure, procedure, and method to be followed to obtain data concerning the research questions. Mouton (1996, p. 19) explains further that: "A research design is an action plan for getting from here to there, where 'here' may be defined as the initial set of questions to be answered and 'there' is some set of (conclusions) answers". Bak (2004), explains that a research design: "...outlines the procedures to be followed during the research and the sources for data collection". It is, therefore, an indication of a plan to be followed in conducting research, which includes the means (methods, procedures, techniques and so on to be used collecting the data (p. 25).

A mixed-methods design was selected because it fitted well with the study and could assist in addressing the research questions. In essence, the research methods (mixed methods) followed the research questions. The choice of mixed methods was also a matter of pragmatic consideration based on the research problem (Brown, 2001, p. 49). From a paradigmatic perspective, the framework was based on a constructivist orientation and assumptions were developed from that perspective. In this context, a constructivist experiences ways in which graduates use their language, subjective experiences and insights to assign meaning to the notion of employability as it relates to their lives. In other words, the research strategy was designed in a way that would allow graduates to speak from their (insider's) perspective (Babbie & Mouton, 1998). Although a constructivist research paradigm represented a crucial element, the mixed methods design was considered favourably for its practical efficacy. Thus, the research

design was structured in a way that would allow for aspects of the quantitative (questionnaire) and qualitative (face-to-face interviews) to apply for data collection.

In summation, the mixed methods design was selected to draw the best from both and to allow for complementarity to enrich data.

4.2 Procedures for explanatory mixed methods research design

According to Creswell (2009), different procedures can be used in a mixed-methods design for the collection and analysis of data. In the case of this study, a sequential explanatory design was used to collect data in two separate phases. I began with the collection of data using a survey questionnaire and an analysis of the quantitative data to provide a general picture of the research problem, as explained by Maree and colleagues (2009). I then proceeded with the collection of qualitative data by face-to-face interviews and analysed it to explain the result of the survey.

As stated by Creswell and colleagues (2003), the purpose of the sequential explanatory procedure in this study was to use the qualitative findings to explain and clarify the quantitative results.

4.3 Selection of participants in the study

Singh (2007, p. 89) refers to the selection of participants in the study as sampling. He defines sampling as a: "process of selection of units from the population". He refers to a sample as a: "set of target respondents selected from a larger population for the purpose of a survey".

In line with this, the selection of the research participants depended mostly on the research questions in the study. Participants in the study were limited to graduates who

participated in the Department of Environmental Affairs (DEA) internship programme between 2013 and 2016. From the sample frame, 100 graduates were sampled, based on the availability of email addresses, active mobile phone contacts and availability to participate in the survey. The survey did not discriminate against race, age, gender or geographical location. For the survey, these graduates were targeted as respondents.

The reason for choosing participants between 2013 and 2016 was purely based on conjecture, assuming that the majority of them would have gained formal employment by 2019 (three to four) years after completion of an internship programme.

5 DATA COLLECTION STRATEGIES.

As indicated above, data collection methods followed a mixed-method design to benefit from the strength of both quantitative and qualitative approaches and to avoid the research being constrained by one dominant paradigm.

In this design, the explanatory mixed methods design was used to collect data in two separate phases as described below.

5.1 Quantitative techniques employed.

Use of a questionnaire.

A questionnaire was designed, tested and approved and comprised of closed questions which provided limited space for a response.

5.1.1 The questionnaire administration procedure

Before I could administer the questionnaire, I sought permission from the Director-General of the Department of Environmental Affairs to research the organisation, which

was subsequently granted. Further to that, I engaged the manager responsible for internships to obtain a database and contact details of all graduates in possession of an environmental science or management degree, and who had participated in the DEA internship programme between 2013 and 2016. A database was made available, cleaned, and 100 questionnaires were emailed to all the sampled participants. The participants had an opportunity to ask questions before completing the survey. It was expected of the former interns to return the completed questionnaires by email. Thirty (30) questionnaires were received and analysed using the Statistical Software Package.

5.1.2 Qualitative techniques.

5.1.2.1 Using semi-structured face-to-face interviews

The face-to-face interview questions followed a survey in a logical sequence. Interview questions were drawn from the findings of the survey and, also provided an opportunity for me to prompt and seek further clarity on the participant's responses. An interview schedule was developed to give some structure to the interview session. However, questions were open-ended and meant to seek clarity on the meaning ascribed to intern experiences. Furthermore, *why* questions were to be asked so that interns could explain themselves regarding the information obtained from the questionnaire data analysis.

Only six (6) graduates participated in the interview sessions. The interviews yielded useful information related to their worldview, perceptions, understanding and how the internship programme had enhanced or failed to improve their employability. The interview session allowed follow-up of specific issues that required further clarity. Punch (2009) concurs: "...interview is a prominent data-collection tool in qualitative research and it is a very good way of assessing people's perceptions, meanings, definitions of situations and construction of reality."

From the above account, I ensured that the process was transparent and the interviewees were informed about the intention to use a digital recorder. The purpose of using an audio recorder in an interview was explained to all interviewees, and the importance of a full recorded interview discussion was highlighted. A flexible approach was adopted to allow participants to elaborate on their responses without restraint.

During the face-to-face interview sessions, everything that the informants said and how they said it was captured using an audio recorder. Throughout the research process, the aim was to form a holistic view of the participant's experiences, views and feelings, in their contexts concerning the relationship between internship and employability.

5.1.2.2 Using a case study

In this study I have decided to use a case study research method to examine the DEA internship programme within its real-life context. Scholars contend that there is often confusion about what a case study is, and they are widely divided regarding the definition of a case study. Multiple authors, Merriam, 1998, 2009; Yin, (2012, 2014) Crowe et. al. (2011) recognizes that there are multiple ways of defining a case study. For Yin (2014), "a case study is an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context, especially when the boundaries between the phenomenon and context may not be clearly evident" (p. 16). Stake (1995) posits that a case study research is an investigation and analysis of a single or collective case, which is intended to capture the complexity of the phenomenon being studied.

I have selected the DEA Internship programme as a case study to examine it closely in its real-world context as a single bounded system (Bromley, 1986, p.1). The purpose of this case study was to understand the DEA internship programme in its own location from the perspectives of the graduate interns.

i) Building the Case

Case studies usually include a small sample of participants in a relatively small controlled environment (Tsang, 2014). As suggested by Yin (2003) and Stake (1995), placing boundaries on a case is key to prevent scope creeping explosion from occurring and ensuring that a case study remains reasonable in scope. Suggestions on how to bind a case include: (a) by time and place (Creswell, 2003); (b) time and activity (Stake, 1995); and (c) by definition and context (Miles & Huberman, 1994).

In building this case, the study was organized around a single research question which is, *i.e "**How do internships facilitate transitions to work for graduate interns and what factors enable or constrain interns transitions into work?***

i) Drawing the boundaries

In order to answer the main overarching research question above, the scope narrowly focussed on the national DEA internship programme implemented between 2013-16. This case study involved the participation of thirty (30) graduate in surveys and semi-structured interviews, who were allowed to use their voices in interviews to express their perspectives in regard to DEA internship programme as they experienced with reference to the overarching research question.

ii) Reasons for selecting the case study.

I have been in the employ of the DEA for more than a decade involved with skills development and implementation of internship programme. Over the years, I have seen how environmental education and training policy has changed from a narrow focus on awareness raising and behavior change, to a stronger and broader focus on strengthening individual and collective participation in the promotion of sustainable development agenda. Hence, the reasons for selecting a DEA internship programme

as a case study was mainly for two reasons (a) this is the first study to be undertaken in the environment sector on graduate employability and there is a knowledge gap to be filled in this regard (b) the DEA as the lead government department in the environment sector is keen to understand how existing investment in internship programme could lead to learning pathways into Green Economy jobs.

As a Sector Education, Training and Development Manager I had access to graduate intern information and was able to use the existing database to randomly select and send a questionnaire to one hundred (100) informants from a DEA 2013-16 internship cohort.

iii) *Data collection and analysis*

According to (Yin, 2014), case study research typically includes multiple data sources. In this particular case study, data was collected through a survey questionnaire, semi-structured interviews and relevant documents related to the DEA internship programme. Data gathered were recorded, transcribed, and the various strands of the data analysed were weaved together into sub-headings that articulated graduate experiences and perspectives. The graduate's voices offered insights about this single case and enhanced the researcher's understanding of the DEA internship programme phenomenon as a complex entity located in its own situation.

iv) *Generalisability of findings*

As Yin (2012) says, case studies are not intended to generalise "from samples to universes" (p.18), the findings of this case study will not be generalised but will remain limited to this case study.

6 DATA ANALYSIS AND INTERPRETATION

6.1 Data-analysis methods

De Vos (2002, p. 339) refers to data analysis as the process of: "bringing order, structure and meaning to the mass of data collected". Qualitative methods emphasise the meaning of words, while quantitative methods attempt to describe the findings using statistical procedures (Maree et al., 2009). Data collected during the first and second phases were analysed separately. What follows is a description of the methods used to analyse data in this study.

6.1.1 Quantitative analysis

Data collected from the thirty (30) questionnaires received were analysed using a computerised statistical software programme, available from the Directorate: Sector Education, Training and Development. A senior manager in the Department of Mathematics and Statistics at the TUT assisted with analyses of descriptive statistics.

6.1.2 Qualitative analysis

The data collected and generated by the semi-structured face-to-face interviews and open-ended questions were saved and transcribed to keep records of the interview conversations. These data were the focus for analysis and provided rich insights into the learning experience of the participants (Smith., 2007). To understand the data, I had to read and reread the text several times, including listening to recorded interviews several times. This process allowed me to gain new ideas, and I was able to write down some impressions as I went through the data analysis.

Once all the recorded interviews had been listened to, the data was transcribed, transformed into text and saved in files. Copies of all the text were printed for analysis,

divided into analytical units which were marked (coded) into meaningful themes, concepts, and segments that bring out the meaning that links with the working theories.

7 TRIANGULATION OF THE FINDINGS

According to Creswell (2003), the term triangulation is used to validate research findings. In other words, the term suggests an "approach that utilises multiple data sources, multiple informants, and multiple methods to reduce bias in the study of one phenomenon" (Ibid).

For this study, research data were collected from multiple data sources and methods. The literature review, survey questionnaires and semi-structured face-to-face interviews were used as data sources for comparison to validate and reduce constraints associated with using either a qualitative or a quantitative approach. Hall and Hall (1996, p. 44) explain that: "the advantage of using triangulation in research is that the problem associated with one strategy may be compensated for by the strength of another". Hence, a data collection triangulation approach was employed in the study, including the interpretation of the findings.

8 ETHICAL CONSIDERATIONS

Creswell (2003) states that the researcher must respect the rights, needs, values and desires of the informants. Silverman (2000, p. 201) reminds researchers that they should always remember that, while they are doing their research, they are in entering the private spaces of their participants. Understandably, these ethical issues had implications for this research and needed to be addressed.

The following steps were taken in line with Silverman's (2000) list to adhere to strict ethical guidelines to uphold participants' privacy, confidentiality, dignity, rights and anonymity.

i) Informed consent

Before I could commence with the research, I sought permission from the Director-General of the Department of Environmental Affairs (DEA) to ensure that the organisation was aware of my presence. In addition, I furthermore invited the DEA interns (graduates) in a transparent way to participate in the study as data sources and sought their informed consent. A letter of invitation to the participants was unambiguous. It explained clearly the purpose and nature of the research, their roles and data collection methods. Permission was granted, and informed consent was obtained via email.

ii) Harm and risk

A guarantee was given to all participants that they would not be exposed to any harm (psychological, physical or emotional) during their participation in the study.

iii) Honesty and trust

An undertaking was given that I would act with honesty, integrity and trustworthiness concerning the data collected, including the analysis thereof.

iv) Privacy, confidentiality and anonymity

In line with the ethical guidelines on issues of privacy, confidentiality and anonymity, I was open to the participants in this regard. I indicated in the informed consent form that privacy, confidentiality and anonymity of the participants would be maintained. In addition, I confirmed in the consent form that the names of the participants would be

kept confidential and would not be used in any other way. Their identity would be protected, and they would remain anonymous.

v) Voluntary participation

The consent form signed by the participants categorically stated that participation in the study was voluntary and no one was forced to participate and this was clarified in the questionnaire instructions as well as during the face-to-face interview sessions. I wanted to avoid a situation in which the informants would be expecting some remuneration for their participation.

Furthermore, in the letter of introduction to the Director-General, I made it clear that the research was purely for academic purpose and not for profit or commercial reasons. To this extent, I indicated that hard copies of the report would be made available to the DEA (Human Resource Department) for ease of reference. The participants could therefore access the electronic version from the Departmental Library or the University of Witwatersrand (Education Faculty), should they wish.

CHAPTER 4

RESULTS

4.1 Data Analysis and Results

This chapter discusses the results of the survey analysis and face-to-face interviews.

As previously discussed, data collection followed a mixed-method design strategy to benefit from the strength of both methodological approaches to avoid the dominance of one over another. The purpose of this design was to use the qualitative findings to help clarify the quantitative results (Creswell et al., 2003).

The analysis of the survey results is presented according to the overarching research question "***How do internships facilitate transitions to work for graduate interns and what factors enable or constrain interns transitions into work,*** and provide answers to the following secondary questions that guided the study:

i) What type of job did you access after completing the DEA internships

ii) In which sectors have environmental graduates who participated in DEA internship programmes been employed?

iii) On average, how long did it take for a graduate to find permanent job after completion of DEA internship?

iv) What are the factors which enabled or constrained environmental graduates to access the labour market?

v) How can participants in the internship programmes be better supported to increase their employability?

4.1.1 Survey Questionnaire

In this study, 100 questionnaires were sent to graduates and only thirty (30) questionnaires were returned and analysed.

The survey results presented below are based only on the number of questionnaires completed, returned and analysed. Cross-tabulations are used to show the relationship between the graduate's race, gender and qualifications obtained. In addition, the Chi-Square test was used to test the statistical significance of the relationship between two variables. A 95% confidence level ($\alpha = 0.05$ or $\alpha = 0.01$) was used to determine the "correctness" of the assumptions. The Chi-Square test was therefore used to run a statistical test to evaluate the difference between two variables.

4.1.2 Face-to-face Interview

Only six (6) graduate interns participated in the face-to-face interviews. Their responses were recorded, transcribed and analysed in terms of how they correlate with the theoretical claims in the literature review. The interviews were used as part of the explanatory mixed-methods seeking further clarity to explain the survey results. Burnard and colleagues (2008) report on how data should be analysed and reported using the explanatory mixed-method design. Important results and findings should be reported under each sub-heading, with quotes from the data used to support these findings; this is followed by a separate division where findings relating to existing literature are discussed. The study has adopted this approach in this chapter to report on the results.

Table 1(a): Summary of responses received

Number of Questionnaires send to participants	Number of graduates who consented and confirmed availability	Number of completed and returned questionnaires	Number of questionnaires analysed
100	30	30	30

Table 1 (a) shows the number of participants sampled, the number of graduates who participated, the number of questionnaires completed and returned and analysed.

Table 1(b): Profile of graduate information

The survey questionnaire required participants to complete biographical data on race, gender and highest qualification. Below is a cross-tabulation based on the survey results. A Chi-Square test was conducted, as shown in Table 1 (c) and the survey results discussed to test statistical significance. The results are discussed below.

Table 1(c) : Cross-tabulation: Race

Count

		Race			Total
		Black (African)	White	Indian	
Gender	Male	13	0	0	13
	Female	13	2	2	17
Total		26	2	2	30

Table 1 (b) and 1 (c) show a cross-tabulation of graduates and the breakdown according to race and gender. The study noted the following according to race: Black (26), White (2) and Indian (2) and Gender: Black M= 13, Black F=13; White M= 0, White F=2 and Indian M=0, Indian =2.

The results show how the internship recruitment policy of the Department of Environmental Affairs was biased in favour of Black (African) graduates compared to the other race groups.

Table 1(d) : Cross-tabulation: Race vs highest level of educational training

		Highest level of education and training				Total
		Diploma	Bachelor's or B.Tech	Honours degree or Postgraduate diploma	Master's degree	
Race	Black	5	11	10	0	26
	White	0	0	2	0	2
	Indian	0	0	0	2	2
Total		5	11	12	2	30

The cross-tabulations show the relationship between race and the highest qualification obtained. The table shows that a total of 26 Black graduates obtained a diploma, Bachelor's degree or postgraduate diploma. Two (2) White graduates had Honours or a postgraduate diploma, and two (2) Indian graduates had a Master's degree. The profile of graduate respondents varied in terms of university attended, race and gender.

The cross-tabulations reflect the distribution of qualifications obtained by graduates across racial and higher education institutions. From the sample of 30 graduates, the three universities, namely, University of Johannesburg (UJ), Tshwane University of Technology (TUT) and Unisa, stood out as the higher education institutions from which graduates were drawn.

Table 1 (e): Institution where highest qualification obtained vs employability

		Did an internship help you to get a job?		Total
		Yes	No	
Institution where highest qualification obtained	UJ	2	0	2
	TUT	10	3	13
	Unisa	0	4	4
Total		12	7	19

Table 1(f): Chi-Square tests

	Value	df	Asymp Sig (2-sided)
Pearson Chi-Square	9.082[a]	2	0.011
Likelihood Ratio	10.963	2	0.004
Linear-by-Linear Association	7.488	1	0.006
N of Valid Cases	19		

Table 1 (e) shows a correlation between the higher education institution and employability. The study notes that most graduates who secured jobs and believed that an internship enhanced their employability came from the Tshwane University of Technology. A Pearson's Chi-Square was done to test whether there was a correlation between the institution where qualifications were obtained and whether the internship helped to get a job. The Chi-Square test shows that there was no correlation between the two variables; hence the statistical difference was not significant (p-value < 0.05). The test reflects that in Table 1 (f) all the values ranged between 0.001; 0.004; 0.006, that is below 0.05.

Discussion: The Chi-Square shows there is no direct association between the institution attended and the possibility of employment in this limited sample. This could, however, be misleading if a larger sample were drawn and may not conclusively illustrate the relationship between institution and employability.

4.2 Questionnaire and analysis of the data

As indicated in Chapter 1 (p. 7) the questionnaire comprised the overarching research questions, which is ""***How do internships facilitate transitions to work for graduate interns and what factors enable or constrain interns transitions into work.***

In order to answer the main overarching research question above, the following sub questions guided the study:

i) What type of job did you access after completing the DEA internships?

ii) In which sectors have environmental graduates who participated in DEA internship programmes been employed?

iii) On average, how long did it take for a graduate to find permanent job after completion of DEA internship?

iv) What are the factors which enabled and constrained environmental graduates to access the labour market?

v) How can participants in the internship programmes be better supported to increase their employability?

The section below presents an analysis of the questionnaire responses based on the five sub-questions with a leading sub-heading.

4.2 (a) Access to a job after an internship

Question 1: What type of job did you access after completing the DEA internships?

Figure 2: Jobs accessed immediately after completing the DEA internship and experience gained.

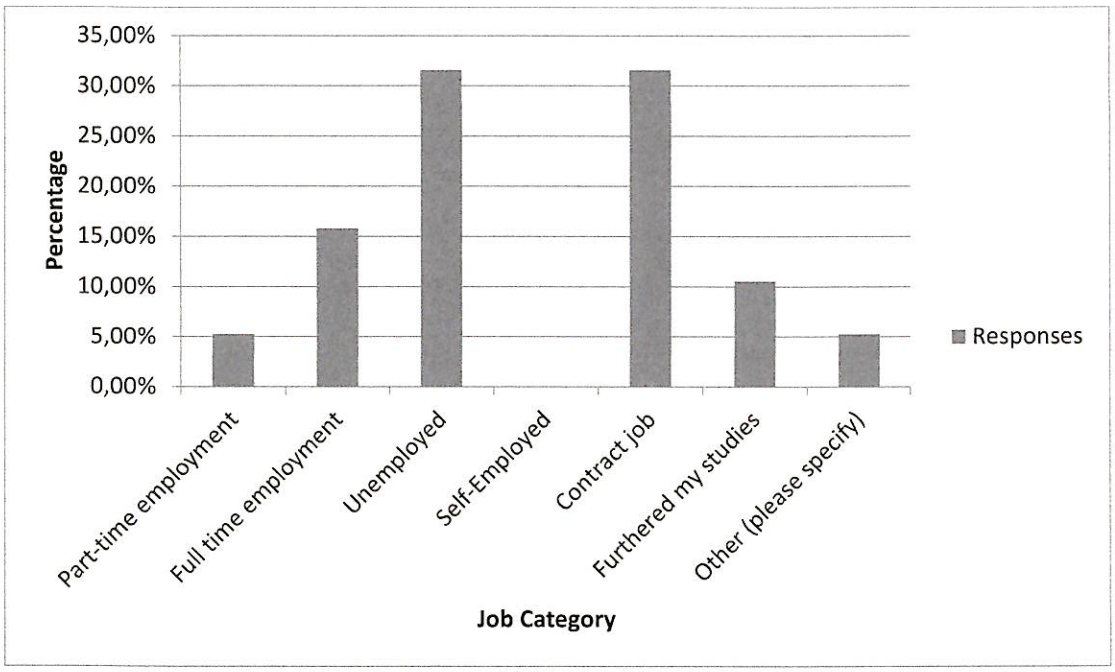

Figure 2: Jobs accessed immediately after completing the DEA internship and experience gained.

Figure 2 shows the type of jobs accessed by graduates post-DEA internship. The data shows a mixed picture of the categories of accessed jobs, but most of the graduates (31,58%) remained unemployed post-internship, and some (31.58%) had to settle for contract positions.

Different reasons could be ascribed to graduates with full environmental qualifications being unable to find employment or having to settle for contract positions; however, input from the interviews about their transition to work suggests a serious struggle.

Extracts from interviews with Respondents 1 and 4 below corroborate the results of the survey shown in Figure 2 above and underscores what graduates had to endure before they could access a first permanent job post-internship.

Respondent 1:

> *I have not been absorbed into a permanent job, rather have settled for a contract position after completing the internship. Nevertheless, I am glad that one foot is inside, and I am learning. Initially, at Varsity, I was made to believe that once I have obtained a degree and I'll get a job. Our schooling system has taught us that education will lead directly to a job, but that's not how life works. And that's one other thing where I feel the education system has failed us.*

Respondent 4 agrees with the sentiment expressed above and argues that accessing a permanent job remains a problem.

> *I am still on contract in DEA since the end of the internship programme. I have been moving to different sections in the Department with contract being extended. However, I am hopeful that one day I will be absorbed into a permanent position because I am dealing with youth development programme.*

The views expressed by two respondents (Respondent 1&4) above reflect the difficulty and the complexity of graduate transition into employment.

The data analysis shows that most graduates did not anticipate the transition to be so difficult. They pinned their hopes on their educational credentials premised on the human capital theory which assumed that there is a direct relationship between

education and work. In other words, the proponents of the human capital theory imagined a linear pathway between education and work. (Schultz, 1959, 1960, 1961). According to Schultz (1961) investing in education enhances employability and a better socio-economic status. However, the responses provided by Respondent 1&2 above suggests that the theory is inconsistent with the reality experienced by graduates. The graduate interns did no go through a linear pathway between education and work, the transition was unclear, more complex than imagined by the proponents of the human capital theory. The OECD critique of the human capital theory also suggests that the theory is not sufficient, noting that there are 'education and context-related factors' that affects employability (OECD 2014a, p. 151). According to Holmes (2015), the passage to access a job from higher education and internship is a "complicated" one and can be "messy" as shown in the current study.

Therefore, on the basis of the evidence emanating from the survey results and the semi-structured interviews, it could be argued that the assumption that education leads to a job, fails to explain the connectedness and how the relationship work to enhance graduate employability.

4.2 (b) Employment sectors with job opportunities

Question 2. In which sectors have environmental graduates who participated in DEA internship programmes been employed?

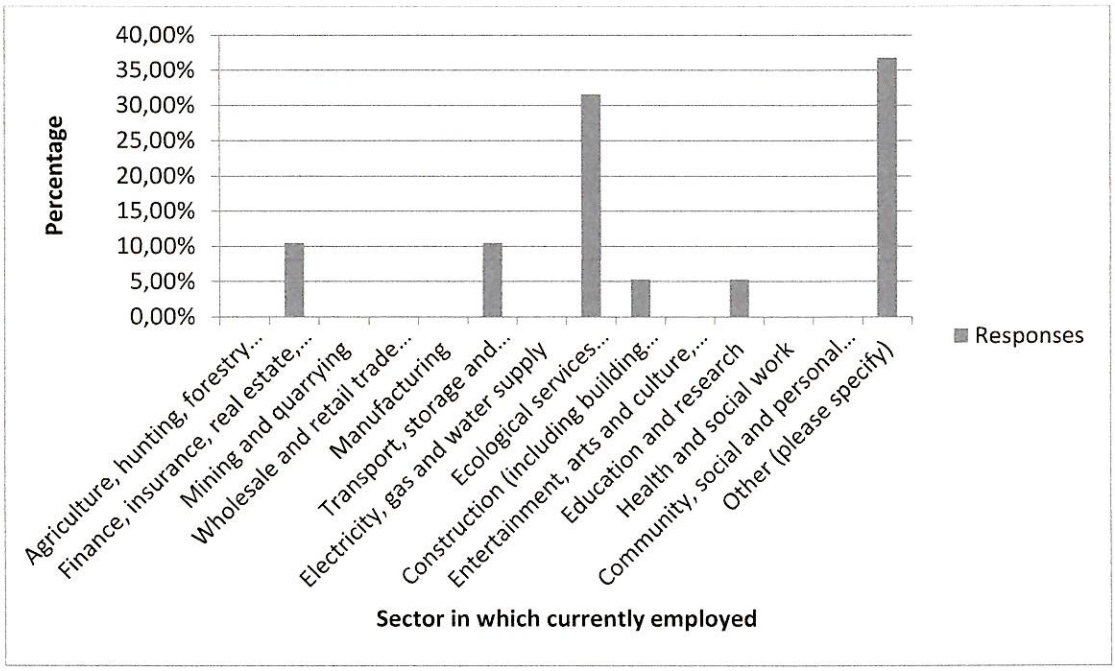

Figure 3: Current employment sector

Results: Figure 3 above shows the sectors in which the DEA interns were employed post-internship. Employment was found by 37% of graduates in sectors other than the one for which the internship programme was intended, and only 32% are employed in the ecological or environmental sector. The lowest employment sectors were construction, education and research, at 5% each.

The rest of the graduates were employed in sectors other than the environment. The sector of least employment was construction, education and research at 5% each. The summary results relate directly to the research question and raise critical questions concerning the destinations of the environment graduates post-DEA internship. The

data show that there is a need to mobilise the environment sector on graduate employability issues. The question could then be asked as to why graduates with environmental qualifications end up taking jobs in different sectors post-internship? In the interviews conducted, Respondents 3, 5, and 6 highlighted the following:

Respondent 3:

> *I have been working for a year as an administrative clerk (in possession of an Environmental Management degree) in a private company because the environment sector does not create entry level jobs. Most vacancies in government are advertised at managerial and specialists' level. This is discouraging, hence, most graduates venture into other sectors. I was fortunate to fill a post vacated by a colleague who left to join the private sector.*

Respondent 5:

> *I think there are lots of graduates with environmental qualifications who are employed in other sectors. This is because the environment sector is not growing, it does not create jobs, or provide opportunities for young graduates. Surely, this has made graduates like to me to divert to fields such as education which offers bursaries for Post-graduate Certificate in Education and job opportunity after completion. I am permanently employed and now train students in environmental education and awareness.*

Respondent 6:

> *I know a friend with whom we were together in the internship programme, she studied Biochemistry (Master's*

Degree). She has quitted the sector and works for Investec. She doesn't even have an interest to go back to the environment sector with her biochemistry qualification because she is earning a better salary, that's all that matters!

The account given by the three respondents above suggests that most graduates were keen to venture into other sectors in search of a job, partly due to lack of employment opportunities and economic growth in the environment sector. Whilst the human capital theory stressed investment in education and training as a pathway to employability, the labour market outcomes in the environment sector "pushed" most graduates away to seek employment in other sectors.

Ashton and Green (1996), criticised the narrow focus of the theory on human capital as a commodity, and ignores a range of factors including the social contexts of skills. Hence, the later conception of the human capital theory embraced concepts such as change in the economy, labour market outcomes, attitudes, characteristics of graduates themselves and other attributes which are also seen as key factors beyond the possession of higher education credentials impacting on employability (Becker, 1993). It could be argued that the lack of fit between education and work reflects the complex way in which the labour markets operate, regardless of field of study and level of education. On the surface this is inconsistent with Schultz's (1975) human capital theory assumption that education leads to jobs as many graduates took jobs in other sectors that provide the best pay and career prospects.

4.2 (c) Average number of years it took to find a permanent job:

Question 3: On average, how long did it take for a graduate to find permanent employment after completing a DEA internship?

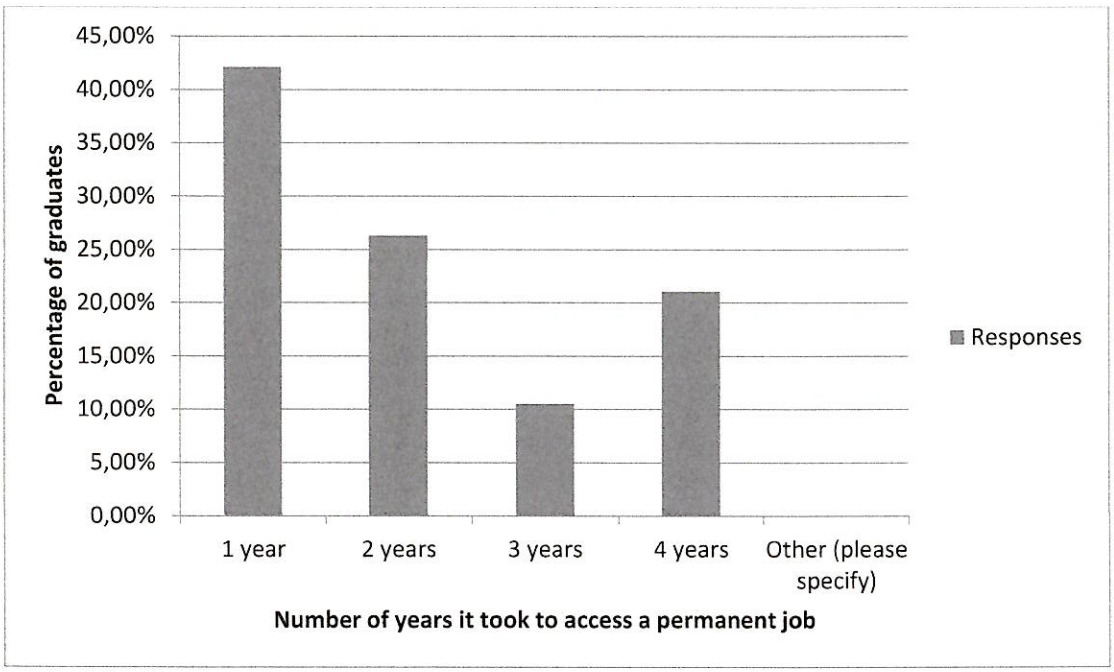

Figure 4: The average years it took graduates to access a permanent job since completing the DEA internship.

Results: Figure 4 above shows that 42% of graduates found a job after one year of completing the DEA internship programme, probably as a result of a management decision to absorb the majority of interns based at DEA. This is in sharp contrast to 21% of graduates who got a job after four years of completing an internship programme. The study notes further that 26% of graduates found a job after two years of completing the DEA internship programme. In short, it took two years for 26% of the sampled graduates to get a job and three years for 11% of the graduates.

Discussion: The study shows that the absorption of interns post-DEA to fill the available vacancies as suggested by Respondent 5, was a key factor in determining the length of time it took for the majority of graduates to find employment. Several reasons have however impacted on those that took more than two years to find permanent employment.

McKenzie (2000) explains that the transition from internship to work presents a challenge on how to help young graduates navigate their way along the paths to gain access to jobs. According to the 1999 OECD study, more work needs to be done and countries ought to try to improve pathways to allow young people to move from school to work and to provide more opportunities to combine vocational learning with general education.

The evidence reflected below by Respondent 2, 3, and 5 suggest how they have benefitted from the internship programme as a key factor in determining their employability.

Respondent 2:

> *I think an internship opened doors for me, and I added that information onto my CV and gave it to my supervisor because she had confidence in my abilities. Fortunately, 11 months into the internship, my supervisors were very impressed with my performance and the skills I was displaying, and they offered me an Assistant Director when a vacancy occurred within the directorate.*

Respondent 3:

> *Well, halfway into the internship programme I was moved to a line function where a new programme has been launched, and there was a need for administrative support, and I took an extended contract for two years. That really bolstered my confidence. Just before the end of the second year, I was offered a permanent job and am continuing providing administrative support*

Respondent 5:

> *Fortunately, enough it didn't take me years to get a job. I actually graduated during the internship programme and immediately got absorbed. In actual fact, majority of us were absorbed to fill the available vacancies because of our exposure to education and training opportunities, and we can do the job well. It was convenient for Human Resources section to use Director-General submission approval route rather the normal recruitment processes to fill the available vacancies at the end of the internship programme. It simply took approval by the Director-General.*

The evidence emanating from interviews above tend to be consistent with the human capital theory claim that individuals with advanced human capital are personally and socially rewarded (Schultz, 1960, Becker 2002a). The central idea by the proponents of the theory is that education is the only factor in determining graduate employability in the labour market. However, several critique in later human capital theory conception embraced concepts such as attitudes , experience and other attributes as key factors in determining graduate employability. According to Becker (2002b) "not simply education or skills but also competencies, attributes, attitudes such as reliability, honesty, self-

reliance, individual responsibility are also seen as key factors (p. 6)". This view is also corroborated by Weiss (1995); OECD studies (1985, 1986a, 1986b, 1986c) that educational qualifications are not the only factors in determining access to jobs because they do not themselves provide individual with relevant human capital and the content has limited relevance to worker performance.

Therefore, on the basis of the evidence, there is scope to conclude that the DEA internship programme was a key factor in determining employability of 42% of interns within a year. The DEA internship programme provided the graduate interns with assets such as work experience, competencies, attributes, attitudes such as reliability, honesty, self-reliance and individual responsibility (Becker, 2002b). Hence, most graduate interns were employed within a year in the ecological / environmental sector post-DEA internship not simply because of education or skills but also because of other key factors.

4.2 (d) Enabling and constraining factors

Question 4: What are the factors which enabled or constrained environmental graduates to access the labour market?

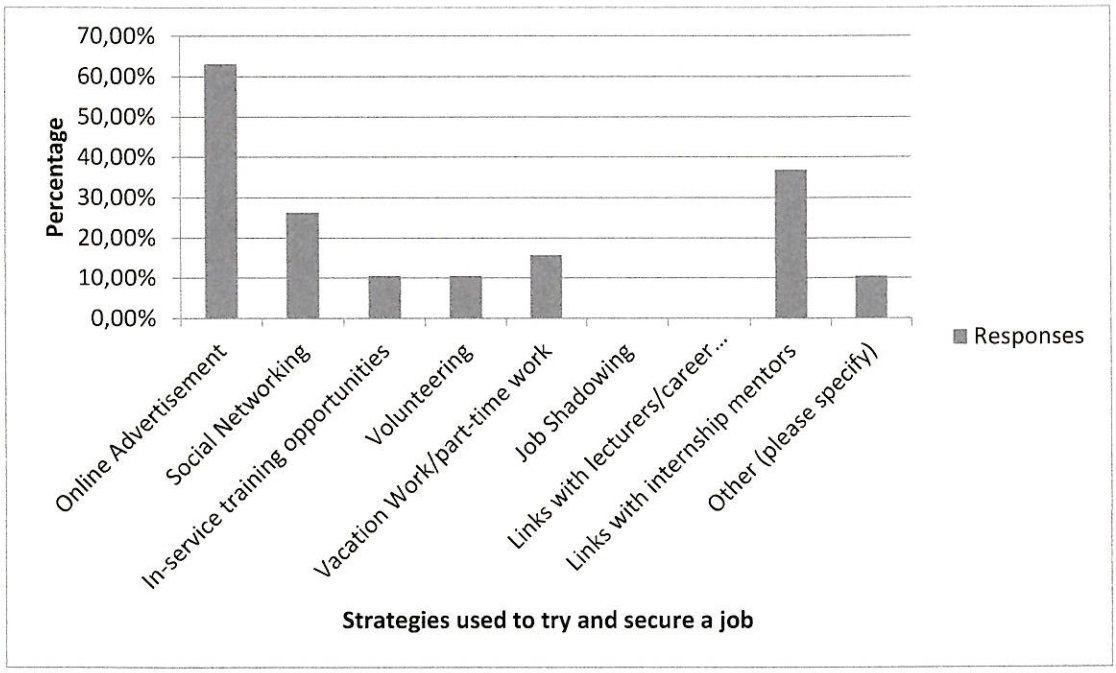

Figure 5 (a) : Strategies used as enablers to access employment.

Results: Figure 5 (a) shows the strategies used by graduates as enablers to enhance their employability. The study noted that 63% of graduates relied heavily on the internet to apply for jobs. This suggest that online advertisements is an emerging enabling tool for most graduates when seeking a job. The study further recognises the role of internship mentors (36.8%) as an important employability factor. Hence, maintaining links with the internship mentors was an enabler for graduates.

Social networking also emerged as an enabler and 26% of the graduates benefitted from different kinds of relationship they have with family and those in employment.

Discussion: One of the key findings emerging from the study is that online advertising was a key cost-effective strategy used by graduates to access a job in the environment sector as confirmed by Respondent 5 who reflects in the following manner:

Respondent 5:

> *I was becoming tired of completing and submitting a public service application Z83 form and decided to switch over to the internet ... I used online application through my search for employment and found it very efficient. I could submit lots of applications without feeling the financial burden.*

In addition, one of the most significant enablers cited by an interviewed graduate was the value derived from the experience gained in part-time work. Thus, it could be argued that the experience gathered by interns during the internship programme created a belief in their own capabilities. This is confirmed by the CareerEDGE model, which places a strong emphasis on work experience as an employability factor (Dacre Pool & Sewell, 2007).

Respondent 2 confirmed this:

> *Yes, work experience gathered through contract work is very important, and that's why I was excited when I got into a contract or part-time employment in the Department. The experience I gained during the 12-months period gave me confidence to journey on in search of better-paying jobs because I knew how to perform certain tasks. I understood roles played by different officials and how their*

work-related. That was my pathway towards realising my full potential and a permanent job.

In addition, data gathered in the questionnaire showed that some graduates used social networks as a mechanism to connect with the workplace to secure employment. According to Steel and Griffeth (1989), social networks are an essential feature of employability; this was emphasised by Respondent 6:

> *I simply got a call from my previous lecturer with whom I still had good social relations. He contacted me to indicate that his colleague had a vacancy for a post-graduate candidate, and he had recommended me. I didn't go through an interview, because I had the relevant qualifications. Rather it was a simple conversation to find out if I was interested and would be willing to join the division. I think I was lucky because the lecturer had simply made it possible for me. That's how I got a job.*

From the above account by Respondent 2, 5 and 6 including the survey results, it is evident that graduate labour market outcomes were influenced by a range of factors beyond higher education. This include key factors such as the use technological tools, work experience and social networking to access a job. The findings further points that while human capital focuses on singular measures such as qualifications, it was not only education but also technical competencies, attributes, attitudes that enabled graduates to access the labour market (Becker, 2002b, p. 6). This is corroborated by the OECD studies (1985, 1986a, 1986b, 1986c) that the relationship between education and work is also mediated by the availability of technology and not only educational levels achieved by an individual.

Therefore, on the basis of the responses referred to above, evidence tend to suggest that the DEA internship programme had provided the graduates with work experience, a key employability factor much needed in the labour market. On the surface, this is inconsistent with the earlier conception of the human capital theory which imagined a causal relationship between education and work (Baptiste, p.190). However, later human capital theory conception by Becker (1993) embraced concepts such as experience, attitudes and other attributes as key employability factors beyond education.

It is against this backdrop that authors such as Spence (1973); Stiglitz (1975) and Weiss (1995) argues that education is a signal to prospective employers because there is no connection between the content of education and worker performance. The OECD (2014) elaborate further that there is nothing very clear about work in education, but merely signal of human capital that an individual has achieved in terms of a certain level of technical, professional and discipline-specific competencies (OECD, 2014). It could further be argued that consistent with the job market signal theory, the DEA internship programme, work experience and associated attributes were key factors in determining and enhancing graduate employability as it signalled evidence of the graduate human capital.

Furthermore, extracts from interviews with Respondent 2, 5 and 6 above is consistent with Becker's (1973, p.6) later version of the human capital claim that it is not solely education that matters, other key factors like technological competencies, experience and social networks, individual responsibility etc. do impact on employability as evident in the interview extracts.

This is further corroborated by the social network researchers such as Coleman (1990) that social capital is also a key factor in determining employability. The author suggest that social capital is distinct from human capital, it focusses on relationships amongst groups rather than on individuals and enhance job search.

Mouw (2002) contends that effectiveness of job search through social networks will only lead to positive outcomes if the contacts concerned are in good quality networks themselves. Therefore, on the basis of both arguments advanced by Coleman (1990) and Mouw (2002) above, including extracts from interviews there is scope to conclude that there is an element of mutual co-existence between individual human capital and social capital (Schuller et al, 2001). The author highlights that individual human capital does not exist separately from the social capital, rather it acts as a surrogate for other key qualities that employers want (p. 44).

4.2 (d) Constraining factors on a five-point Likert scale rate

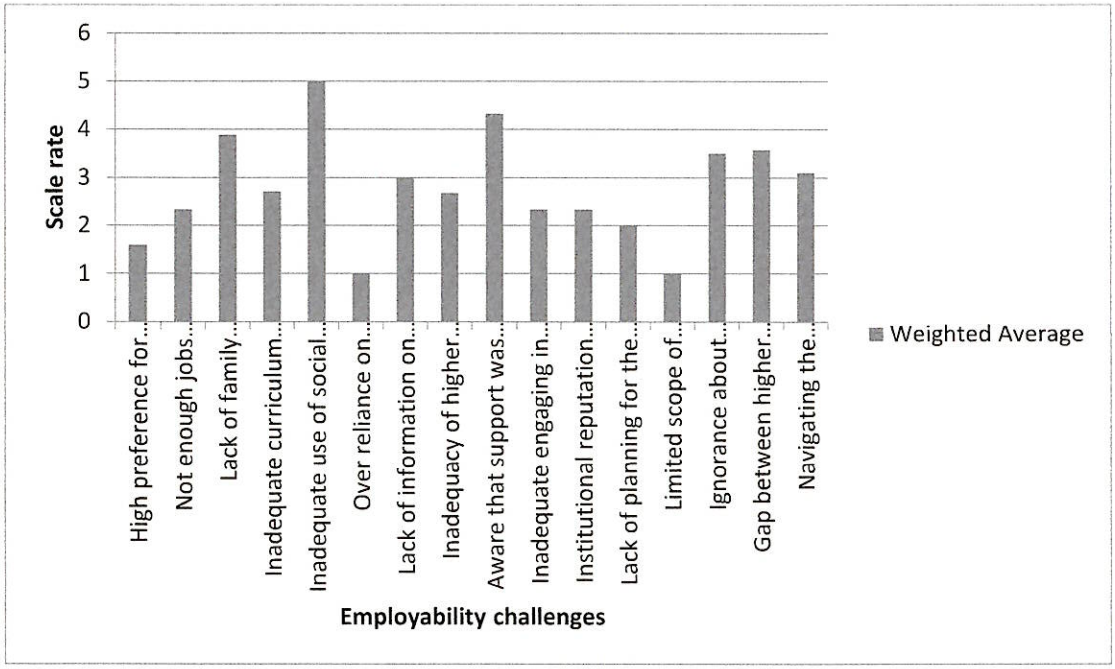

Figure 5 (b) : Constraining factors on the five-point Likert scale rate

Discussion: Figure 5 (b) above shows that there are several constraining factors for employability. The study noted that most graduates rated social networks five on the scale as an important employability factor, yet they did not make use of them.

From the above Figure 5 (b) it is evident from the survey results that graduate labour market outcomes depended largely on a range of factors beyond higher education. This included in particular social factors such as awareness and using of social networks at university, within the family and community. It has emerged in the study that most of the graduates were not aware of the institutional support available at their universities and

this was a serious constraining factor. To this extend, Coleman, (1988) highlight limitation of the human capital that it focuses on singular measures such as qualifications, while social capital is measured more broadly, thereby allowing more focus on informal and other forms of learning acquired through networks and relationships. This is further corroborated by DeFillippi and Arthur (1994) that social capital and a formal or informal network of relationships or connections are also key factors that enhance employability and not solely higher education.

Furthermore, evidence suggests that there are inadequate linkages between the curriculum and the workplace. The study therefore, recognises the importance of embedding elements of employability in the curriculum and preparing students for the transition from higher education institutions to formal work. Hence, provisioning and embedding of employability skills in the curriculum remain critical employability factor beyond the mastery of educational content (Yorke & Knight, 2006). This is a gap identified by Respondent 4 and expressed in the following manner:

Respondent 4.

> *There was practically no link between my qualification, there is a gap between what I have studied and what was advertised by the employers. Although the internship offered me an opportunity to sharpen my skills in order to get into the workplace. It pains me that I had the relevant qualifications, but that was not good enough to gain a permanent job despite my relevant environmental science degree. I am still in a contract position.*

It could be argued that the views expressed by Respondent 4 above is inconsistent with the earlier conception of the human capital theory which imposes a link between education and work (Schultz, 1960). The evidence further points to the failure of the theory to explain how investment in education could not provide full-time employment for graduates whether differentiated by education level or field of study. As a consequence, graduates opted for contract jobs, which did not reflect their own preferences, but mainly based on labour market circumstances. Some graduates were left unemployed, hence, learning pathways, as highlighted by Harris and colleagues (2006, p. 3), show that pathways are not linear according to the proponents of the human capital theory, rather "stepping stones" with no guaranteed financial returns on their investment as expressed by Respondent 1:

> *I have studied Public Management, up to honours level, specialising in Public Policy Making and Information Management. At the end of the DEA internship, I took up a contract offer in the transport section because there were no relevant jobs suited for my qualification in the environment sector. Thus far, I have not seen good financial returns on my investment in my qualifications.*

The above account reflects the harsh realities facing graduates in regard to lack of financial return on investment in education. This is inconsistent with the human capital theory that there is a direct relationship between earnings and educational attainment (Mincer, 1958, 1974); Whilst the theory claims that differences in income is causally connected to level of education, it fails to explain how Respondent 1, could not benefit from his investment in education and accrue financial returns as claimed by the proponents of the theory. This is further corroborated by Baptiste (2001) that income

distribution cannot be explained by human capital theory as suggested without introducing factors from outside the theory (p. 195).

4.2 (e) Support to increase employability

What follows is a summary of the responses provided by each of the six (6) graduates interviewed in respect of Question 5. Their responses express how they experienced the DEA internship and how they think it could be improved.

Question 5: How can participants in the internship programmes be supported better to increase their employability?

Respondent 1:

> *Work placement is very important for me. I think the Department of Environmental Affairs, should involve other private companies, including non-governmental organisation that have environmental functions to arrange placement for graduate interns.*

Respondent 2:

> *I think it boils down to good supervision by line managers. However, as things stands the current supervisors don't have a spirit to serve as educators and counsellors for interns. They are no emphatic and interested in the future of the interns. They only emerge towards the end of the programme when interns are about to exit into an uncertain future.*

Respondent 3:

> *Number one, for me, is the issue of mentoring. I strongly feel that the person who is assigned to an intern as a mentor must be well equipped, skilled, knowledgeable and must be prepared to guide the intern to master the tasks, processes, systems, etc.*

Why I'm saying this is because most of our peers had issues with their mentors because they were assigned to make copies, scan documents instead of creating a learning opportunity.

Respondent 4:

I'd say the challenge for me is lack of ongoing monitoring of the internship programme, how interns are being exposed to the work environment, participating in projects, community engagement, report writing etc. There should be a period where interns, mentors and Human Resources division reflect on their experiences. This would allow for feedback and ongoing improvement. Mentors could have quarterly meetings with interns, but for me, such meetings have not served any purpose because nothing was achieved.

Respondent 5.

The most important thing for me is the university curriculum which must accommodate the workplace activities. The second key thing is preparing graduates to plan for world of work.

Respondent 6:

The graduates have to be exposed to the world of work during the third or fourth year of study so that they begin to understand the workplaces, cultures, social networks and ethics. I struggled with interviews and found it very stressful, maybe built in interview role-plays.

The account by all the Respondents above suggest that the earlier conception of the human capital theory offered a narrow view of relation between education and work. This is corroborated by Ashton and Green (1996) who reflect that the human capital theory is limited in its focus on human capital as a commodity, as it ignores the social context of skills. Furthermore, Brown (2001) states that, from the supply side, human

capital theory effectively views individual workers as comprising of a "bundle of technical skills that are fed into the economy". This, according to Brown (2001) provides a narrow view of the nature of investment in individuals especially in the context of a knowledge economy where elements of motivation, identity and social context are critical to productivity and competitivess (p. 13)

Graduate labour market outcomes are also influenced by a range of factors beyond higher education. As the nature of study at university changes, other students can also find work experience valuable in deciding whether a particular career path is right for them.

Conclusion

In this section, I have tried to provide an overview of human capital theory, analysed its basic assumptions against the empirical evidence from graduate transcripts. While the literature reviewed consistently emphasised the causal relationship between education and work, the empirical evidence suggest to the contrary. However, in seeking to understand the connection between education and work, the study acknowledges the limitation presented by the number of interviews conducted, and therefore the findings cannot be generalised.

However, it could be argued that, there is scope to conclude that education is not the only key factor in determining graduate employability, rather, there are several key factors that impact on employability.

TABLE 1(g) : PROFILE OF THE INTERNS INTERVIEWED.

Name and Gender (M/F)	Qualification/ University/College obtained	Year Obtained	DEA Internship Group/Cohort	Work Experience before internship and status
Respondent 1	Bachelor's Degree BA Honours in Public Management and Governance	Bachelors Degree 2014 Honours Degree in 2015	2015-2016	No work experience before internship. Unemployed post-DEA Internship but settled for a contract
(Respondent 2)	Bachelor's Degree in Environmental Management Honours Degree in 2012	Bachelor's Degree 2009 Honours Degree in 2012	2013-2014	Volunteer FIFA World Cup (2010). Contract post (2011-2012) (Census STATS SA). Furthered studies (Honours Degree (2012). Fully employed post-DEA Internship
(Respondent 3)	National Diploma in Human Resources Management B-Tech in Human Resources Development	National Diploma 2012 B-Tech completed in 2013 during internship	2014-2015	No previous work experience before internship. Fully employed post-DEA Internship
(Respondent 4)	Bachelor's Degree in Environmental Management and Geography	2011	2015-2016	Unemployed for two years (2011-2012). Permanent job for one year (2013) in a retail store. Administrative officer for two years (2014-16). Unemployed post-DEA Internship but settled for a contract
Respondent 5	Hospitality and Events Management Certificate	2016	2015-2016	No work experience before internship. Fully employed post-DEA Internship
Respondent 6	National Diploma Nature Conservation. B-tech in Nature Conservation	National Diploma 2011 B-tech 2013	2013-2014	Work Integrated Learning (2013). Fully employed post-DEA Internship

Table 1 (g) above reflects a profile of six graduates who participated in the interview sessions. The reason for the graduate profiles is to help the reader to interpret the graduate's responses in relation to the secondary research questions.

CHAPTER 5

DISCUSSION OF THE MAIN FINDINGS

The sections reflect on the main findings from the survey, interviews and the literature review. It should be noted that the findings of the research are confined to the DEA Internship programme. In other words, generalisation of the case study findings is limited to the case itself.

This is done to illuminate the graduate's perspectives on employability pertaining to their experiences and perception during their tenure at the Department of Environmental Affairs from 2013-16. Input from graduates in the study provided important alternative voices compared to the dominant employer voices in the debate. The main findings discussed below relate directly to the overarching research questions below:

- ***How do internships facilitate transitions to work for graduate interns?***
- ***What factors enable or constrain interns transitions into work?***

In order to answer the main overarching research question above, the graduates responded to the following sub questions below:

(i) What type of job did you access after completing the DEA internship?

(ii) In which sectors have environmental graduates who participated in DEA internship programmes been employed?

(iii) On average, how long did it take for a graduate to find permanent after completion of DEA internship?

(iv) What are the factors which enabled and constrained environmental graduates to access the labour market?

(v) How can participants in the internship programmes be better supported to increase their employability?

5.1 Main Findings

The summary of the main findings discussed below is based on the data analysed and graduate responses to the above research questions.

- **The value of an internship**

At least 42% of graduates who found work after one year of completing the internship confirmed that the internship, combined with their educational level, added enormous value to their lives by giving them their first job, introducing them to the workplace and giving them hands-on experience. The CareerEDGE model element also highlighted the importance of experience as an important element of the model that enhanced the employability of graduates. It could be argued that employers value people who have work experience, and, in this case, the internship offered graduates a sense of self-efficacy (Bandura, 1995). The Pedagogy for Employability Group (2004) confirms that work experience is a crucial employability factor.

Although graduates responded positively on the value of an internship, not all graduates gained immediate benefit from the programme.

- **The value of an educational qualification**

One of the main findings of the study from the survey results and face-to-face interviews is that most graduates regarded an educational qualification as a critical asset and an enabler in life. In their responses, most graduates emphasised the importance of academic qualifications as crucial to their employability. They believed that having a university qualification would offer job opportunities and bolster their careers; however, not all of them found employment. This is contrary to the human capital assumptions

that, the more qualifications an individual has, the more employment opportunities come their way. Stiglitz (1975) says that educational credentials are merely a representation of the abilities possessed by employees and may not necessarily lead to jobs and better returns. As discussed, Gamble (2016, p. 216) points out that the relationship between education and the world of work is complex and highly contested, and there is no direct relationship between qualifications and employment.

- **The gap between education and work**

This study recognises that knowledge, skills and attitudes are crucial employability assets to both employers and employees. However, most graduates agreed that academic credentials alone were not enough to guarantee access to a job. The study noted that there was poor planning for providing employability studies in higher education institutions. Graduate viewpoints on employability skills differ from those of the employer. However, there is a need for collaboration to address the inadequate provisioning of employability studies in the curriculum exists. This is a constraining factor and policymakers have to make efforts to encourage collaboration between universities and workplaces.

Recent research attributes the gap to the diverse expectations between education and workplaces and shows two schools of thought holding divergent views on the role of education in society. There is one group that is opposed to universities producing graduates to address the needs of the economy, and there another group that still believes in the independence of the universities. In the midst of this, the employer and government believe that the graduates should service the economy. Employers contend that university education is at odds with the needs of employers and, by implication, the qualifications possessed by graduates are not in line with what employers want.

Evidence from this study suggests that the gap has to be bridged, and higher education institutions ought to have an understanding of workplace requirements and ensure that they are embedded in academic programmes. Thus, the experiences of graduates are a clear indication of the education-workplace discord, which is being raised by industry captains about the value of tertiary education. According to Kraak (2013, p. 35), universities must also have such links, with students having continuing access to work experience and learning appropriate to their studies and career plans.

The author adds that learning pathways that exist in vocational education programmes should be reviewed as they have resulted in dead-ends due to poor articulation between education, training and the world of work. The author suggests that this gap has to be closed, with the role of the vocational colleges redefined to provide pathways to universities of technology.

The study by the International Labour Organisation (ILO, 2016) cautions that workplace practices have changed drastically as a result of globalisation and technological advancement. As a consequence, as new roles are created, they lead to a shift in demand for the skills required by employers which has severe implications for employability, as employers change their recruitment practices (ILO, 2016). Therefore, efforts to bridge the gap between education and work should consider the shifts arising from global and technological changes.

The study recognises the need to strengthen linkages between higher education and the workplace by adding employability issues to the curriculum.

- **Planning for the transition post-internship**

The study has noted that there was poor planning for providing employability studies in higher education institutions. Most of the graduates reflected on their transition from the internship programme to the workplace and strongly agreed that the process was unplanned, complicated and constraining. As noted from the interviews, the change was not smooth; the graduates experienced social, emotional and psychological anxiety and, as a result, developed a negative attitude to the internship programme. In the main, the study found that some graduates experienced mixed feelings about their transition, while others were apprehensive about the workplace.

In effect, the study noted that employability needs planning and a transitional system comprising various forms of institutional arrangements and learning programmes to overcome the barriers to obtaining a job and to learning and development, as discussed in previous sections. Hence, there is a need for a transitional arrangement that links all partners to complement each other and to prepare the graduates for a smooth transition to work. It is against this backdrop that recent research emphasises the importance of linking higher education institutions to other bodies responsible for enhancing employability, for example, training institutions, incubation facilities, recruitment agencies, employer representatives, work-based learning practitioners, and labour market experts, amongst other. Otherwise, this process is a "complicated" one and can be "messy" (Holmes, 2015).

Evidence from the study suggests that graduates ought to have been emotionally prepared for this transition, and it is, therefore, an indictment on the people who did the planning. In future, planning for the transition will have to include graduate training in emotional intelligence.

- **Re-engineering pathways**

The study has recognised that transition to work post-internship is an extremely lengthy and worrying process. Evidence suggests that graduates were involved in several activities to try to reach their destinations; some had to settle for contract positions, fulltime employment, part-time and full-time study. This orientation reflects a view that the transition to work has to be re-engineered to a more coherent structure. Wheelahan (2009, p. 6) describes the purpose of pathways as a route to ensure that individuals navigate between: "different types of experiences, qualifications and different occupational sectors with ease", beyond the schooling system. Hence, internships do serve as pathways; however, they have to be overhauled to enhance graduate employability.

Allias (2012) explains further that transitions or pathways relate to a myriad of education-to-work transitions constructed by an individual and not institutions to navigate through life via formal and informal education training programmes in diverse settings. The OECD (1999) study contends that countries ought to make the pathways more attractive, open and flexible and provide more opportunities that combine vocational learning with general education to promote this understanding. A study by Harris and colleagues (2006, p. 3) defined learning pathways as a "journey of learning", complex patterns of movement, which are not linear, but rather "stepping stones, or crazy paving". Thus, evidence from the study suggests that most graduates' pathways reached dead ends and have, therefore, to be re-engineered.

Linked to the creation of pathways in the preceding paragraphs is the Finn Report (1999) that provides a framework for the design of a coherent pathway structure. The report suggests several elements which include:

(a) acquisition of experiences as key to unlocking continuity between education and training,

(b) access to a range of different pathways,

(c) an effective credit transfer system,

(d) articulation arrangements to provide smooth bridges between pathways.

According to the Finn Report (1999), each of these elements forms part of a coherent structure of pathways from knowledge and practice to work. The suggestions contained in the Finn Report would have to be processed locally to frame learning pathways to enhance employability. Lotz-Sisitka and colleagues (2017) explain that learning pathways for sustainable development in the current NQF would have to be developed and configured to ensure individuals can move across several sub-framework qualification boundaries and carefully manage issues of articulation.

- **Social networks and connections**

The study recognised the emergence of social networks or connections as an important feature of employability. Evidence has shown that some graduates identified social networking as an important employability factor. Linking people with social profiles from industry could facilitate a break into workplaces, gain work experience and eventually secure a permanent job. Social networks have emerged as an important employability feature and helped to provide information about and access to job leads. In a study by Chiwara and colleagues (2017), it was shown that social connections had become a significant role player in the labour market. However, participants did not have those networks to assist them with employability. This is confirmed in previous studies which highlighted that individual graduates without social networks find it difficult to enter the labour market (CHE, 2016; Msimanga, 2013; Jackson, 2014).

According to Richardson (1986, p. 52), individuals: "are sought after for their social capital because they are well known, are worthy of being known" and this has implications for graduate employability.

- **Importance of the proposed employability model.**

The study recognises employability as a process and not an event and proposes an integrated model of employability shaped by the experience of graduate interns and advances a discourse on the dynamic interplay between the various factors of employability. The model advocates a unified overview of employability conceptual frameworks.

The employability model considers the dynamic interplay between various factors that include globalisation, technological advancement and a transitional system that links both the employer and higher education institutions. As far as the workplaces are concerned, the model notes that the employer has to be involved and has to make a substantial concerning sharing job-related information.

Besides sharing information, employers have to provide learning sites to advance work-based learning programmes linked to curricula. The critical role of the employer will, therefore, be as an active partner in building the transition system and ensuring work-related requirements input to the curriculum. Universities would have to incorporate experiential learning in their programmes with employability added to curricula. This will assist graduates in making informed decisions regarding career paths and goals relevant to employability skills.

The employability model contends that education is not solely the only factor, it requires all factors to act in an integrated way. Therefore, stakeholders such employers, academics and graduates have to work together and share information on changing

labour conditions to enhance the employability of graduates. Taking all these together, internship programmes have to continue to grow with support from all stakeholders.

5.2 Triangulation of the findings

According to Creswell (2003), triangulation is used to validate research findings. The author elaborates that triangulation suggests an approach that utilises multiple data sources, informants and methods to: "overcome problems of bias and validity".

The survey results and the analysis of the face-to-face interviews were triangulated into the main findings of the study. As indicated above, research data were collected from multiple data sources, which included a literature review, a survey questionnaire and semi-structured face-to-face interviews which were used for comparison. This was done to validate and reduce constraints associated with using either a qualitative or a quantitative approach. Therefore, the discussion of the main findings, including the interpretation of this study, was used.

5.3 Limitations of the study

The findings of this study were limited to a few graduates who participated in the DEA internship between 2013 and 2016. In the main, the study sought to understand how the internship enhanced graduate employability solely from their perspective. As a consequence, the findings cannot be generalised. It may be necessary to get a more diverse sample that includes the DEA, the public entities, employers in the sector, higher education institutions, former interns and provincial departments, to make the study more representative.

5.4 Implications of the research findings

Some implications of the research findings are:

- The study has the potential to contribute valuable knowledge concerning internship programmes and how they enhance employability.
- These results cannot be generalised; however, they may assist human resource practitioners, particularly in the DEA, to link the internship to workplaces to enhance graduate employability.
- The graduates (interns) who are currently in the DEA internship may use the information to shape future programmes.

5.4 Recommendations for future research

The main findings suggest that programmes involving work-based learning, such as internships, do facilitate transitions to work, although it remains a challenge. It is therefore recommended that:

- The DEA should disseminate the findings from this research to its agencies or public entities, employers in the sectors and former interns to inform current undergraduates of the difficulties they are likely to face on graduation. This is critical because it will inform all stakeholders involved in graduate employability programmes and will encourage undergraduates to take ownership of their employability development and destinations.
- The DEA should initiate collaborative workshops with higher education institutions, employers and relevant government departments before recruiting graduates. This will allow for broader clarity and consensus on

roles and responsibility and enable graduates to contribute to the planning process.

- Employers must be presented with better information and data on the potential costs and benefits associated with these types of programme.
- At a systemic level, policymakers should also initiate engagement with higher education institutions, employers, graduates, TVET colleges and the sector education and training authorities to design a transition system to enhance graduate employability.
- Employer recruitment practices need to be reviewed. They are currently not enhancing employability and leave graduates unemployed. As noted above, a wide range of programmes are working for both the graduates and employers.
- The study notes that employers support paid or unpaid internships, contract or part-time work, voluntary work, vacation work and mentoring programmes, self-employment or further studies on a fulltime basis post-internship programme. Therefore, employers have to be encouraged in this regard.
- It is recommended that work-based learning programmes, such as internships, should articulate a combination of learning in workplaces and higher education institutions and consider practical arrangements between work and study throughout the programmes.
- The technical vocation education and training colleges should be brought upstream to facilitate transition programmes by bringing workplace-based training into the education and training domain.

5.5 Recommendations for future research

- It is recommended that, for future research, the selection of a larger sample that will provide better insights into graduate employability be considered.
- Future research should seek to investigate the perceptions and views of employers in the sector, including higher education institutions' employability skills programmes.
- Although mixed methods were employed in this study, it may be necessary to explore alternative methodologies for conducting future research.

5.6 Conclusion

This research aimed to examine graduate employability in the context of the DEA internship programme as experienced and observed from the perspective of graduates.

The main findings discussed related directly to the overarching research questions below:

- ***How do internships facilitate transitions to work for graduate interns?***
- ***What factors enable or constrain interns transitions into work?***

From the literature review and the discussion on the employability constructs, the basic assumption of the human capital theory suggested that graduates needed to invest in education to improve their job prospects.

However, on the basis of the evidence, there is scope to conclude that there was no causal relationship between education and work, despite graduate belief that higher education qualifications would automatically lead to employment. The fact is that the graduate transition from an internship programme to work was difficult and complicated. Hence, graduates were ill-prepared for the transition from higher education to the

workplace post DEA internship. The research findings further suggested that a variety of factors and circumstances influenced employability. It was evident from the graduate's responses that getting a qualification did not presuppose or guarantee for employment, as claimed by the proponents of the human capital theory.

In addition, the graduates experienced a considerable gap between obtaining a qualification and gaining access to employment, hence, the study suggest a bridge-building between employer expectations and graduate employability profile. The study further noted that it is the responsibility of universities to add workplace requirements to the curriculum, raise awareness and implement career development programmes. In addition, the higher education system has to lead policy discussions on creating a transition system in partnership with all stakeholders.

The study noted that there was poor planning for providing employability studies in higher education institutions. The participating graduates did not feel adequately supported by both higher education and the department during their transition post the internship programme. The graduate interns felt left alone, with no support and they had to take responsibility for leveraging relationship with employers.

According to Kumar (2007), higher education institutions need to prepare students for jobs that do not exist yet. Once they are part of the labour market, graduates need to continue working on their employability to find and keep jobs (Akkermans et al.,2013).

As evidenced in the study, the internship has high policy relevance and, as suggested by ILO (2010), countries have to broaden policy debates concerning the provision of employability opportunities for graduates. Furthermore, the ILO (2010) studies suggest partnerships between government, business and the education sector be strengthened,

and private sector be given opportunities to lead strategy in creating internship opportunities and placements.

The study notes the OECD (2016b) input, that there are still definitional issues and the lack of agreed typology of programmes concerning employability which, not only constrains meaningful policy debates on the topic but hampers the collection of internationally comparable statistics on the nature, prevalence and outcomes of internship programmes.

Furthermore, the study proposes an integrated employability model which is based on the graduate personal and contextual experiences of employability. The model connects and integrate the different factors of employability which are fragmented and affect graduate transitions. Finally, the study makes several recommendations and highlights implications for further research projects.

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APPENDIX 1

Letter of Introduction

Dear respondent

Hi, my name of Thomas Mathiba, a Master's student at the Wits REAL Centre, University of Witwatersrand School of Education. I am currently conducting a research survey and would want to invite you to participate by completing the attached questionnaire which is being administered as part of my Master's Degree research project on "Learning and employability in the environment sector: A case of an internship programme implemented by Department of Environmental Affairs (DEA). I am hoping that you can help me by completing this very brief questionnaire which comprises only 17 questions. I think it should take you no more than 10-15 minutes of your time to complete.

The purpose of the study is to examine ways in which the DEA Internship programme has influenced or enhanced your transition from university to the workplace as an environmental science/management graduates? I hope that your responses would assist in generating information which could provide practical insights on the employability of environmental science or management graduates or their destinations within the environment sector in particular.

The questionnaire has been designed to gather information about your experience of the DEA funded internship and how it has directly or indirectly facilitated your employability. You will be expected to complete a questionnaire by simply ticking the appropriate box. In responding to the questions please try as much as possible to reflect the reality as you perceive it. Please feel free to make any additional explanatory or qualifying comments on the margins. Please note that all information obtained from this

study will be kept strictly confidential. The information and insights you choose to share in the interview will be regarded as confidential and all research data will be kept under lock and key to ensure the anonymity of all participants. The result of the study will be made available to the Department of Environmental Affairs and accessible as a research report to the public at the DEA Library and to you upon request. This study has been approved by the Ethics Committee at the University of Witwatersrand and the Department of Environmental Affairs. Should you have any concerns regarding the ethics of this research or would like to raise issues after the survey is completed, you welcome to contact my supervisor, Dr Presha Ramsarup, electronically at presha.ramsarup@wits.ac.za or telephonically at 082 906 3170 and Mr Joshua Moepya at jmoepya@environment.gov.za or telephonically at (012) 399-
8682.

Thank you very much for taking the time to read this information sheet. Looking forward to your participation before 20 August 2019.

Regards

Mr Thomas Mathiba

Director: Sector Education, Training and Development

Tel: (012) 399 9922 Cell: 082 453 6789

Email: tmathiba@environment.gov.za

Department of Environmental Affairs,

Cnr Steve Biko & Soutpansberg Roads, Tshwane,0002

APPENDIX 2

CLEARANCE CERTIFICATE

Faculty of Humanities: Education Campus

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CLEARANCE CERTIFICATE PROTOCOL NUMBER: 2018ECE017M

INVESTIGATOR Mr. Thomas Mathiba

PROJECT RESEARCH TITLE

"Learning and employability in the environment sector:

A case of an internship programme implemented by the Department of Environmental Affairs"

APPENDIX 3

QUESTIONNAIRE to be completed by all the 100 sampled former DEA interns.

GENERAL INSTRUCTIONS FOR FILLING THE QUESTIONNAIRE:

1. Please fill in the following questionnaire in respect of your journey and transition from being an intern at DEA to becoming an employee.
2. Please answer all questions. In case any question is not applicable to you, please tick the 'not applicable'.
3. The Questionnaire contains different type of questions viz.:

   a) Some questions require specific information about the transition e.g. What kind of job did you access immediately after the DEA internship?

   - Part-time;
   - Full-time etc.

   (b) *Some questions allows for only one option can be selected e.g.* What is your current employment by occupation?

   - Elementary worker
   - Skilled environmental, agricultural or fishery worker

c) *Some questions allow the selection of more than one option e.g* Which strategies did you use to secure employment?

- Social Networking
- In-service training opportunities etc.

4. Please make a tick mark in check boxes for selection of options.

N.B The questionnaire broadly relates to the following subsidiary questions;

- Which sectors have employed environmental graduates who participated in DEA internship programmes?
- How long did it take a graduate to find work?
- What are the factors which enabled graduates to access jobs /or constrained them from accessing jobs?
- How can participants in the Internships programme be better supported through targeted and appropriate learning pathway interventions to increase their employability at the local government level?

Question 1.

What kind of job did you access immediately after completing the DEA internship?

Kind of job	Tick box
~~1)~~ Part-time employment	
~~2)~~ Full time employment	
~~3)~~ Unemployed	

~~4)~~ Self-Employed	
~~5)~~ Contract post	
6) Furthered my studies	
~~7)~~ Not Applicable	

Question 2.

On average, how many years did it take you to access a permanent position since completing the DEA internship?

Number of Years	Tick a box
1 year	
2 years	
3 years	
4 years	

Question 3.

The pathway of first-time entrance into the labour market is one of seven possible pathways. Below is a list of ten pathways graduates follow after internship. Kindly indicate your pathway since you completed the DEA internship programme.

Status	Year 1		Year 2		Year 3		Year 4	
1. Studying Fulltime								
~~2.~~ Unemployed and looking for work								
~~3.~~ Unemployed but not looking for work								
4. Employed in the formal								
~~5.~~ Employed in the informal economy								
~~6.~~ Self-employed								
~~7.~~ Part-time work								
~~8.~~ Volunteer								
~~9.~~ Contract posts.								
~~10.~~ Care-giver								

Question 4.

Below are some challenges experienced by graduates during transition from an internship to workplace. Tick 5 relevant challenge/s that applied to you in the appropriate boxes. On a 5-point Likert Scale rate the extent to which you strongly agree or disagree. Use the corresponding number e.g (1) for Strongly Agree and (5) for Strongly disagree in relation to the challenge/s. Select more than one option.

N.B The 5 Point Likert Scale: (**1**) Strongly Agree, (2); Agree; **(3):** No opinion; (**4**)**:** Disagree and (**5**)**:** Strongly Disagree

Challenge/s	Tick the relevant box	Rate the challenge	Challenge/s	Tick the relevant box	Rate the challenge
~~1)~~ High preference for experienced and skilled employees by employers			e) Aware that support was available, but never used it.		
~~2)~~ Not enough jobs available in the environment sector			10) Inadequate engaging in extra-curricular activities		
~~3)~~ Lack of family involvement and support during transition			11) Institutional reputation and credibility of qualifications		
~~4)~~ Inadequate curriculum preparing students for employment			12) Lack of planning for the transition by DEA post the internship		
~~5)~~ Inadequate use of social networks or connections			13) Limited scope of applications		

~~6)~~ Over reliance on academic qualification than a wide range of graduate attributes			14) Ignorance about employment opportunities and the nature of work related to university programme choices		
~~7)~~ Lack of information on environmental job opportunities			15) Gap between higher education and the world of work		
~~8)~~ Inadequacy of higher education support programme during the transition into employment			16) Navigating the interviews and negotiating employment		

Question 5.

How did you progress from an intern position to your current position.
Kindly outline your learning pathway by completing the table below and indicating your occupation after internship, time spent in occupation, learning pathway and what influenced your learning pathway.

OCCUPATION	TIME SPENT IN OCCUPATION	LEARNING PATHWAY FROM	**WHAT INFLUENCED YOUR LEARNING PATHWAY?** e.g Bursary or relations with supervisors

	(e.g 1;2;3;4;5;6 years)	INTERNSHIP PROGRAMME (e.g National Certificate Diploma; Bachelors Degree etc.	
~~1)~~ Elementary worker			
~~2)~~ Plant or machinery operator and assembler			
~~3)~~ Craft or related trade worker			
~~4)~~ Skilled environmental, agricultural or fishery worker			
~~5)~~ Service worker or shop and sales worker			
~~6)~~ Clerk			
~~7)~~ Technician or associated professional			
~~8)~~ Professional			
~~9)~~ Legislator, senior official or manager			
10) Armed forces			
~~11)~~ Not Applicable			
~~12)~~ Other (Specify)			

Question 6.

Which strategies did you use to secure employment? Select more than one option.

Strategies used	**Tick the relevant box**
~~1.~~ Online Advertisement	
~~2.~~ Social Networking	
~~3.~~ In-service training opportunities	
~~4.~~ Volunteering	
~~5.~~ **Vacation Work/part-time work**	
~~6.~~ **Job Shadowing**	
~~7.~~ **Links with lecturers/career counsellor**	
~~8.~~ **Links with internship mentors**	
~~9.~~ **Not Applicable**	
~~10.~~ **Other: Specify**	

Question 7

Looking at your journey from being a DEA intern to becoming an employee, how would you describe your transition? Select more than one option.

Description of the transition	Tick the relevant box	Description of the transition	Tick the relevant box
~~1.~~ Predictable		7. Unpredictable	
~~2.~~ Straightforward		8. Messy	
~~3.~~ Filled with confidence		9. Lacked confidence	
~~4.~~ Smooth sailing		10. Difficult	
~~5.~~ Well planned		11. Unplanned	
~~6.~~ Ready for the transition		12. Not ready for the transition	

Question 8.

Indicate your primary 'job search' method to gain access to the current job. Please tick the relevant box

Job search method	Tick box
~~1.~~ Used the internship to gain access to this job	
~~2.~~ Simply sent in my CV or asked for work	
~~3.~~ Responded to a job ad in the printed media /website/company website	
~~4.~~ Responded to a job ad in the Government Gazette	
~~5.~~ Through the Department of Labour's employment centres	

~~6.~~ Through a recruitment agency or labour broker	
~~7.~~ Through a social network /or friends	
8. I was headhunted or asked to apply for the job	

Question 9.

What is your current employment sector?

Employment sector	Tick box	Employment sector	Tick box
~~1)~~ Agriculture, hunting, forestry and fishing		~~2)~~ Finance, insurance, real estate, IT, and business services	
3) Mining and quarrying		~~4)~~ Wholesale and retail trade (including sale of products, tourism, hotels and restaurants, vehicle repairs)	
5) Manufacturing		~~6)~~ Transport, storage and communication, tele-communications	
~~7)~~ Electricity, gas and water supply		~~8)~~ Ecological services /Environmental services	
~~9)~~ Construction (including building and design)		10) Entertainment, arts and culture, sport and the media	
~~11)~~ Education and research		~~12)~~ Health and social work	

		~~13)~~ Community, social and personal services and NGOs	

Question 10.

- How can participants in the Internships programme be better supported through targeted and appropriate learning pathway interventions to increase their employability at the local government level?
