THE IMPACT OF WORK INTEGRATED LEARNING ON THE EMPLOYABILITY OF UNDERGRADUATES USING PSYCHOLOGICAL CAREER RESOURCES AT A HIGHER EDUCATION INSTITUTION IN NAMIBIA

by

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DECLARATION

I, Martha Tulimekondjo Namutuwa, declare that the contents of this thesis, titled “The impact of work integrated learning on the employability of undergraduates using psychological career resources at a higher education institution in Namibia”, represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed.  **Date** 14 October 2020

ABSTRACT

The purpose of this research is to investigate the impact of Work Integrated Learning (WIL) on the employability of undergraduates at a Higher Education Institution (HEI) in Namibia. Worldwide, the employability of graduates is an important component of the agenda of higher education, for employers and society alike. HEIs are expected to produce work ready graduates for the world of work. This has resulted in a course focusing on Work Integrated Learning (WIL) being embedded in the curriculum of the Polytechnic of Namibia (PoN) to assist in preparing graduates for the world of work. The study utilised a quasi-experimental quantitative research design, since this was considered the most appropriate method for measuring the employability of undergraduates before and after the WIL intervention. An instrument developed by Coetzee (2008), consisting of Psychological Career Resources (PCRs) that measure employability, in other words, the Psychological Career Resources Inventory (PCRI), was adopted and used to collect data. The Statistical Package for Social Sciences (SPSS) was utilised to analyse the data.

The study found that the WIL intervention was ineffective in influencing the general employability of undergraduates in the School of Management Sciences at the PoN, subsequent to their three-month-long WIL placement. It was found that there was no significant difference between the WIL-placed groups and the unplaced groups when assessed in relation to the PCR dimensions, namely career enablers, career drivers and career harmonisers. The findings indicate insignificant differences between the two groups of students, that is WIL-placed and unplaced respondents, which indicates a negative relationship between WIL and employability. Moreover, the relationship between WIL and employability could not be established, since there is no significant difference in the mean scores of the different PCRs dimensions.

These findings are in contrast to the literature reviewed, which asserted that WIL does influence employability from different perspectives, and clearly indicated that it does play a significant role in developing the skills that improve employability. The study thus concluded that, on its own, WIL does not positively influence the employability of undergraduates. It was therefore recommended that a further study be conducted to track graduates' employability after graduation among those who have participated in WIL and those who did not. The duration of time spend on WIL and its contribution to employability could also be investigated. A study could further be conducted to

determine the influence of curriculum teaching and learning activities on employability, other than WIL. Furthermore, a larger study involving all undergraduate programmes with the WIL component embedded in their curriculum could be conducted. Such a study could then be used to validate the findings of the current research. The literature furthermore stated that employability can be grounded in the specific curriculum activities, perhaps extending the WIL period to six months or even a year, and strengthening career guidance with employability skills in the programmes offered to undergraduates. These suggested approaches could be implemented by PoN to improve the employability of graduates.

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DEDICATION

I dedicate this thesis to my entire family.

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LIST OF ACRONYMS

CE	Concrete Experience
CEU	Cooperative Education Unit
CPUT	Cape Peninsula University of Technology
DOTS	Decision learning, Opportunity awareness, Transition learning and Self-awareness model
GEM	Graduate Employability Model
HEI	Higher Education Institution
KMO	Kaiser-Meyer-Olkin
MoAs	Memoranda of Agreements
NGOs	Non-Governmental Organisations
NUST	Namibia University of Science and Technology (formerly known as the Polytechnic of Namibia)
ORBIS	Overcome Recession Bioscience Investment in Skills
PBL	Problem Based Learning
PJBL	Project Based Learning
PCRs	Psychological Career Resources
PCRI	Psychological Career Resources Inventory
PoN	Polytechnic of Namibia
RO	Reflective Observation
SPSS	Statistical Package for Social Sciences
USEM	Understanding, Skills, Efficacy and Metacognition
WACE	World Association for Cooperative Education
WBL	Work Based Learning
WDTL	Work Directed Theoretical Learning
WE	Work Exposure
WIL	Work Integrated Learning

DEFINITIONS OF TERMS

Students

Individuals studying at a College, a University or a Polytechnic.

Undergraduate

A university student who has not yet completed his or her studies and graduated with a first degree.

Work Integrated Learning (WIL)

"The integration of knowledge and skills gained in the tertiary education institution and in the workplace" (Coll, Eames, Paku, Lay, Hodges, Bhat, Ram, Ayling, Fleming, Ferkins, Wiersma & Martin, 2009:16).

Employability

The continuous ability to fulfil, acquire, or create work through the optimal use of both occupational-related and career meta-competencies (defined below) (Coetzee & Roythorne-Jacobs, 2007; Hall & Chandler, 2005; Herr, Cramer & Niles, 2004, Van der Heijde & Van der Heijden 2006, cited in Coetzee, 2011:2).

Career meta-competencies

"Psychological career resources consisting of attributes and abilities of individuals, such as behaviour adaptability, self-awareness, career direction, sense of purpose, self-esteem and emotional intelligence" (Coetzee & Berg, 2009:2).

Mentoring

"The passing on of wisdom and knowledge by a mature and experienced person to a younger, less experienced individual" (Raven, 2011:14).

Curriculum

"A set of courses, and their content, offered in a programme" (Polytechnic of Namibia, 2009a:18).

Psychological Career Resources

"The set of career related preferences, values, attitudes, abilities and attributes that lead to self-empowering, proactive career behaviour that promotes general employability" (Coetzee, 2008:10).

Stakeholders

"Generic term for all parties involved in the work integrated learning process, including the university, university coordinator, student, workplace, supervisor or host organisation and clients" (Cooper, Orell & Bowden,2010:xiii).

CHAPTER ONE: OVERVIEW OF THE STUDY

1.1 Introduction

This chapter introduces the study, sets out the background and explains the problem to be examined in this research. The research questions and hypotheses are formulated, the objectives and significance of the research are presented, and lastly, the significance and scope of the study are discussed.

There appears to be renewed interest globally among higher education institutions (HEIs) to produce work-ready and employable graduates. Universities are, after all, intended to prepare students for the world of work and to enhance their employability, and they express this in their expectations to develop well-rounded graduates with generic attributes, qualities and skills (Smith, Brook, Lichtenburg, McIlveen, Torjul & Tyler, 2009:19). HEIs appear to be moving away from exclusively theory-based learning to integrate practical learning into their curriculum. Work Integrated Learning (WIL) involves the integration of theory and practice (Cooper, Orell & Bowden, 2010:130). Applied learning develops skills and attitudes, which cannot be developed in the classroom setting alone. The focus of WIL is on "learning by doing in context and with feedback", with the expectation that work experience improves employability (Milton & Jones, 2008:5). Employers regard employability and work readiness as important for graduates' transition into employment (Milton & Jones, 2008:17). Employability in this study refers to the development of the right abilities that will enable students to enter the workplace. Employers often lament that graduates starting work lack the applicable knowledge and skills, and thus WIL is a strategy put in place to overcome this (Blom, 2014:5). However, this raises the question whether the efforts of HEIs to integrate theory and practice do in fact result in enhanced employability.

1.2 Background of the study

According to the Namibian government's National Development Plan, Namibia is envisaged to become a knowledge-based society by 2030 (National Planning Commission. National Development Plan 3, 2007/2013:152). To achieve this vision, it is critical to prioritise higher education and to promote science, technology, research, entrepreneurship and innovation as key drivers of such a knowledge-driven economy (National Planning Commission. National Development Plan 3, 2007/2013:19). The

knowledge economy, as projected through Vision 2030 and the strategic objectives of the Polytechnic of Namibia (PoN), which this study focuses on, require new graduate skills, which are relevant for the workplace and other spheres of life (Polytechnic of Namibia, 2009b:18). Such an economy needs knowledgeable workers are able to access, manage, and apply knowledge to innovate and create new knowledge, technologies, techniques, systems, products and services (Polytechnic of Namibia, 2009b:18). The HEI discussed in this thesis (the PoN) has thus incorporated WIL into its curriculum to prepare graduates for the workplace. The PoN was established in 1995 by an act of Parliament (Act No. 33 of 1994). The institution's "mandate is to provide post-secondary school career-education, provide continuing education, conduct applied research, and develop equal opportunities in respect of educational programmes and to provide effective collegial governance and administrative services" (Polytechnic of Namibia, Act No. 33 of 1994:4-5).

The PoN is known for embracing and promoting the ideals of the knowledge-based economy or society. It has invested significantly in the development of an excellent technological and engineering infrastructure to support the teaching and learning environment, to develop and prepare students for the global market, and to enhance research and administrative services (Polytechnic of Namibia, 2009b:8). In addition, the institution's strategic plan has guaranteed that its vision and mission are closely tied to the national imperatives and aspirations of the country (Polytechnic of Namibia, 2009b:7).

The institution's curriculum document states: "graduates are expected to possess the following attributes: technical, professional, subject knowledge and the application thereof for the purpose of furthering their career, engaging productively in the economic activities in their chosen fields of study of expertise and in their cognate areas of learning" (Polytechnic of Namibia, 2009a:6). The institution's existing curriculum framework requires all undergraduate level programmes to allocate a minimum of 10% of the total credits to WIL (Polytechnic of Namibia, 2009a: 1). WIL was embedded in the curriculum to contribute to graduate work preparedness, focusing on the development of the basic skills necessary for employers. WIL gives an opportunity to students to practice what they have learned, by exposing them to the actual work environment. In line with the institution's curriculum framework, the PoN has embedded WIL in its undergraduate programmes. This affords students the opportunity to put theory into practice in order to develop specific required career competencies (Polytechnic of Namibia, 2009a:9).

Jackson (2013a:99) argues that WIL improves students' employability by enhancing communication, self-management, supervisory skills, interpersonal skills, problem solving and the understanding of the world of work, among others. In addition, Fleming, Martin, Hughes & Zinn (2008:1) note that the cooperative education model has been adopted to enhance the students' workplace preparedness through the development of generic and specific competencies and thus improve their employability. Employability in this context refers to "a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations" (Yorke, 2006:8). Furthermore, Melville-Ross & Langlands (2011:4) explained that a key priority for HEIs and other relevant stakeholders is embedding employability skills.

The PoN established the Cooperative Education Unit (CEU) in 2011, with the aim of facilitating collaboration between the institution and industry, commerce, the community and the public sector. This unit concentrates on the facilitation and execution of WIL with the specific aim of improving the employability of students (Kisting, 2011:2). Furthermore, the main functions of the unit are liaison with industry, the fostering of partnerships, placement of students for WIL, internships, action research and support for the program advisory committees (Polytechnic of Namibia, 2010/2011:74). In this regard, the word 'industry' refers to public and private sectors, international universities and the global community.

In addition, the CEU is also responsible for negotiating Memoranda of Agreements (MoAs) between the institution and industry. Although agreements have been signed with industry to offer the institution's students opportunities to do their WIL, industry is often reluctant to offer students actual placement opportunities. Such a lack of placement opportunities can partly be attributed to a lack of knowledge about the WIL concept in Namibia and to the fact that industry does not understand why students should do WIL, or how both parties would benefit from students having WIL opportunities in industry during the course of their studies. In addition, information on why and how industry must engage in WIL is not readily available. Moreover, the relationship between WIL and employability is not known, and this too can hinder the effective implementation of WIL by the institution, despite concerted efforts. However, such issues are beyond the scope of this study; instead, it will only focus on determining the effect that WIL has on the employability of undergraduates, since this was the rationale given by the PoN for implementing WIL in its curriculum.

As has been pointed out earlier, the PoN took the initiative to embed WIL in its curriculum framework as early as 2009.This demonstrates that employability is becoming a priority in higher education. The pedagogy of employability encompasses teaching and learning of a variety of knowledge, skills and attributes that support sustained career development and learning (Pegg, Waldock, Hendy-Isaac & Lawton, 2012:7). Career development is a self-driven internal psychological state, which influences the ability to cope or adapt in different work environments (Coetzee, 2014:1). The broad scope of knowledge, skills and attributes referred to in the employability pedagogy could be developed through WIL. According to Naanda (2010:4), Namibian employers regard a positive attitude, teamwork, time management, planning, problem-solving, and multi-tasking as key employability skills.

The competencies referred to above relate to capabilities and methods that allow individuals to navigate their way through the complex changing world of work (Coetzee, 2014:5). Bandura (2006:168, cited in Coetzee, 2014:6) explained that people can learn to judge their capabilities, anticipate their abilities, formulate their and recognise their limitations, and hence to adjust their behavior. Based on such considerations, Coetzee developed an instrument known as the Psychological Career Resources Inventory (PCRI). This measures an individual's self-perceived strengths based on five psychological career resources, as applied in a particular socio-cultural environment. The PCRI helps individuals to recognise their capabilities in order to access these to improve their employability (Ferreira & Coetzee, 2013:1370). The representation of undergraduate employability in this study is therefore determined via this instrument to encourage undergraduates to determine their employability. Employability in this context is defined "as the individuals knowledge, skills and attitudes they possess, the way they use those assets and present them to employers and the context" (Hillage & Pollard, 1998:3).

Coetzee (2009:2) defines employability skills as consisting of values, attitudes, abilities and attributes that lead to self-empowerment, and that promote general employability by exposing students to real career experience. Employability is a psycho-social construct that represents a mixture of attributes comprising values, attitudes, dispositions, and skills (Bezuidenhout, 2011:14). Moreover, employability is the independent variable measured in terms of the PCRI instrument's competencies that are gained by undergraduates in this study. Coetzee (2008) developed an employability model linked to the foundation of the work, as conceived by Fugate, Kinicki & Ashforth

(2004). In that model, it is proposed that individual employability includes constructs needed to deal effectively with the career-related changes of the individual. Coetzee (2008:10) labelled the employability model the Psychological Career Resources Inventory (PCRI), and utilised five dimensions: "career preferences, career values, career drivers, career enablers, and career harmonisers". Her model defined employability in terms of specific proactive career behavior and skills, that empower individuals to access and adjust to the work environment making use of their occupation-related and career meta-competencies (Coetzee, 2008:2).

Thus, this work investigates the effect of WIL on the employability of students by making use of the PCRI, which is a standardized instrument developed to measure the general employability of individuals. This instrument considers employability to mean the psycho-social construct of the individual that fosters adaptive cognitive behavior. The PCRI instrument developed by Coetzee (2008) is thus utilised to ascertain the effect that WIL has on employability, since researchers consider the instrument as psychometrically appropriate to measure employability of graduates in the labour marketplace.

1.3 Problem statement

The employability of graduates is a particularly an important issue, since HEIs are embedding WIL programmes into their curriculums with the intention of improving the employability of graduates. HEIs are moreover under increasing pressure to prepare graduates for the workplace, and ensuring they are able to meet the demands of knowledge-based economies (Suleman, 2016:170). Gaining insights into the effectiveness of an initiative such as WIL is thus critical. WIL is thus positioned as an important medium for developing graduates' attributes and employability skills (McIlveen, Brooks, Lichtenburg, Smith, Torjul & Tyler, 2008:23). A survey report by the Namibia Council for Higher Education that traced graduates found that some employers felt that graduates from HEIs were not adequately trained for the work environment and that they lacked basic experience (Ellis, 2008:7).

Therefore, the institution that this study concentrates on has identified WIL as an intervention that combines professional work experience with academic studies to integrate theoretical and conceptual knowledge with practice through direct or supported educational activities (Bates, 2010:1). The PoN has made a concerted effort to put mechanisms and resources in place to ensure that the WIL intervention is

effectively implemented. Despite this, the PoN is experiencing a challenge with regard to ascertaining the influence that WIL actually has on the employability of undergraduates.

WIL nurtures cognitive and work capabilities, as well as assisting students to develop awareness of the organisational culture, and of teamwork, communication and interpersonal skills (Harvey *et al.*, 1997, cited in Milton & Jones, 2008:5). Brauns (2013:6) acknowledges that undergraduates who participate in WIL are considered more knowledgeable about their work than their colleagues who did not undergo the WIL intervention. WIL provides students with the opportunity to apply theoretical knowledge in the real-world context. This permits students to acquire job-specific competencies, including interpersonal skills, personal motivation and developing positive work attitudes that enhance employability. According to Gault, Leach & Duey (2010:76), WIL is endorsed by business schools as an effective means to acquire practical experience and to enhance employability. However, it is also necessary to gauge the actual effectiveness of WIL and its impact on the employability of undergraduates, and this is the purpose of this study. The employability attributes of undergraduates were determined by using a psychological instrument known as the PCRI, which can help stakeholders in WIL make informed decisions on whether or not to support WIL initiatives. Therefore, the independent variable is employability and the dependent variable is WIL. The problem statements articulated in Section 1.4 give rise to the research questions listed in Section 1.5 below.

1.4 Main aim of the study

The main aim of the study is investigated by this thesis is to determine the effect of WIL on the employability of undergraduates by means of the PCRI.

Further to the main problem, a number of sub-problems are highlighted below:

- The impact of WIL on employability, as represented by the PCRs of undergraduates who undergo WIL versus those who did not, are unknown.
- The differences between the employability of undergraduates who were exposed to the WIL intervention and those who were not, are unidentified.

1.5 Research questions

To achieve the aim of this study the following research questions were answered.

1.5.1 Main question

- What impact does WIL have on the employability of undergraduates?

1.5.2 Sub-questions

- Do the pre- and post-PCRs (employability) scores for the pre-WIL placed respondents differ significantly?
- Do the pre- and post-PCRs (employability) scores for pre-WIL unplaced respondents differ significantly?
- Do the pre- and post-PCRs (employability) scores for the pre-WIL placed and pre-WIL unplaced respondents differ significantly?
- Do the pre- and post-PCRs (employability) scores for the post-WIL placed and post-WIL unplaced respondents differ significantly?
- Do the pre- and post-PCRs (employability) scores for the WIL-placed and unplaced respondents differ significantly?
- Do the pre- and post-PCRs (employability) scores for the pre-WIL placed and pre-WIL unplaced groups versus the post-WIL placed and post-WIL unplaced groups differ significantly?

In order to answer the above research questions, the hypotheses below were tested.

1.6 Hypotheses

This study attempts to determine obtain the necessary scientific evidence to accept or reject the six hypotheses below:

Hypothesis 1

H1: There is a significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL placed groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL placed groups.

Hypothesis 2

H2: There is a significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL unplaced groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL unplaced groups.

Hypothesis 3

H3: There is a significant difference between the pre- and post-PCRs (employability) scores of the pre-WIL placed and pre-WIL unplaced undergraduate groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the pre-WIL placed and pre-WIL unplaced undergraduate groups.

Hypothesis 4

H4: There is a significant difference between the pre- and post-PCRs (employability) scores of the post-WIL placed and post-WIL unplaced undergraduate groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the post-WIL placed and post-WIL unplaced undergraduate groups.

Hypothesis 5

H5: There is a significant difference between the pre- and post-PCRs (employability) scores of the WIL-placed and unplaced groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the WIL-placed and unplaced groups.

Hypothesis 6

H6: There is a significant difference in the pre- and post-PCRs (employability) scores between the WIL-placed and unplaced groups (pre-study vs post-study).

H0: There is no significant difference in the pre- and post-PCRs (employability) scores between the WIL-placed and unplaced groups (pre-study vs post-study).

1.7 Significance of the research

It is envisaged that this study will improve the knowledge and understanding of WIL and its impact on employability in Namibia, as no current research exists in the country with regard to the influence of WIL on the employability of undergraduates. The employability attributes of undergraduates were determined by using a psychological instrument known as the PCRI, which can help stakeholders in WIL make informed decisions on whether or not to support WIL initiatives. Moreover, the study will ascertain

whether it is in fact worth it for the PoN, which the study focuses on, to embed WIL interventions into their curriculum. The study also seeks to inform and motivate the industry partners who signed agreements with the institution to make placement opportunities available for students to do WIL.

In addition, it is important to provide information about the impact of WIL to other HEIs, since they might experience similar challenges as those faced by the PoN. The study also ascertains whether employability and WIL are related in order to contribute to the field of graduate employability. At the end of the study, recommendations will be made about the potential advantages, disadvantages, alternatives and challenges of WIL. Such information may be useful to the stakeholders who participate in WIL initiatives already, and for those who are yet to make a decision to participate.

1.8 Scope of the study

The focus of the study is to determine the impact of WIL on the employability of students by looking at a cohort of students in the School of Management at the PoN during, both before and after participation in a WIL initiative. The study follows an exploratory approach, focusing on third-year undergraduates who are eligible for WIL. Students were divided into experimental group and control groups. The survey was then administered to both groups, both before and after the WIL initiative had taken place during the same year. Coetzee's (2008) Psychological Career Resources Inventory (PCRI) was utilised to determine whether WIL had an impact on the employability of the undergraduates.

1.9 Outline of the thesis

The thesis is made up of six chapters which are briefly described below:

Chapter 1: Overview of the study

This section outlines the background of the study, problem statements, and research questions, hypotheses laid to assist in answering the research questions and the importance of the study and concluded with the scope of the study. This chapter laid the foundation for the study chapters that follow.

Chapter 2: Employability theory

The third chapter discusses the theory of employability focusing on its foundation, definition and models that are compared and contrasted leading to the instrument that was utilise to measure the employability in the study.

Chapter 3: WIL theory and related interventions

This chapter reviews the relevant literature relating to WIL, its foundation from experiential learning, conceptual framework and modalities are explained. Furthermore, the WIL intervention as well as stakeholders challenges and benefits are elaborated.

Chapter 4: Research methodology

The forth chapter deliberates on the study research approach and methodology. The study target population and the sampling thereof is discussed. The instrument utilise to collect data and its validity and reliability is explained. The chapter concluded outlining how data was collected, analysed and the statistical method utilised.

Chapter 5: Empirical findings

The fifth chapter deals with display statistical analysis, interpret empirical findings of the study and presented them in tables and figures.

Chapter 6: Discussions of findings, recommendations and conclusions

Finally, Chapter 6 integrates the previous chapters relevant literature in the findings and discusses the results explaining the impact of WIL on graduate employability. The implication of the study, possible limitations in collected data with reference to the study context are outlined. The study concludes with recommendations for future research.

1.10 Conclusion

HEI's is obligated to ready students for the world of work therefore, efforts are made to enhance graduate employability in their curricula. Moreover, the knowledge economy demands that students are prepared for the job market. Thus, higher education is moving from the theory-based learning to more practical approaches adopting work integrated learning in the curricula to ready the graduates for the labour market as discussed. The chapter also highlighted the employability as cognitive skills, understanding, attributes and being able to apply theory in the workplace. These are both generic and specific competencies that can be enhanced though WIL.

Nevertheless, the impact of WIL on employability is unknown and the PCRI inventory instrument is recommended to ascertain the connection between the two variables as outlined in this chapter through testing the hypothesis and to attempt to answer the research questions.

CHAPTER TWO: EMPLOYABILITY THEORY

2.1 Introduction

This chapter reviews the existing literature on employability in order to provide a theoretical foundation for the study. The focus is on the origin of the theories, on descriptions of employability and on definitions of this term. In addition, various employability are identified and discussed in terms of their constructs, their foundations and their dimensions and how they build upon each other. The specific models discussed are: Fugate, Kinicki and Ashforth's (2004) Model of Employability, Fugate and Kinicki's (2008) Dispositional Employability Model, Yorke and Knight's (2006) USEM Model, the Career EDGE Model by Dacre-Pool and Sewell (2007), Bridgstock's (2009) Conceptual Model of Graduate Attributes, the Graduate Employability Model (GEM) of Bezuidenhout (2011), and the Psychological Career Resources Inventory (PCRI) Model of Coetzee (2008). Finally, the PCRI model of Coetzee is compared and contrasted against the other employability models, to determine its appropriateness to measure employability through Coetzee's (2008) PCRs elements to discover the impact of WIL in this study.

2.2 Theories of employability

The concept of employability is used to describe the attributes of employees who can or are able to work (De Grip, Van Loo & Sanders, 2001:213, cited in Bezuidenhout, 2011:51). The concept was initially formulated in order to distinguish between people who can work and those who are not able to work, but its definition has changed over the years. It is now conceptualised in terms of how well an individual's capabilities and skills align with the labour markets requirements, and it is used to evaluate whether it is possible to employ an individual with certain skills and competencies (Nielsen, 1999:393, cited in Bezuidenhout, 2011:54). Similarly, Potgieter (2012:2) referred to "employability as the ability of people to enter the workplace, adjust to it and be dynamic within the workplace". Furthermore, the author stated that employability related to attributes that include self-directed or personal responsibility to secure a job. Employability also refers to the individual's capability to find work (employment) or create work for themselves. The next section discuss the definitions of employability from the viewpoints of various theorists.

2.3 Description of employability

Employability comprises a set of accomplishments, skills, knowledge and individual attributes that can potentially enable people to gain access to employment and to be successful in their career (Little *et al.*, 2006:25). From this definition, it can be deduced that employability consists of attributes that make graduates likely to find employment. However, Harvey (2005:14) argued that employability not only comprises getting a job, but is also about evolving attributes, techniques and experience of life. It is about learning as such, with less emphasis being placed on the importance of work, but more on individual capability. The emphasis thus shifts to developing essential reflective capabilities, with the aim of empowering individuals. The ability to have the required set of skills, as defined above, can thus be defined as employability. Cassidy (2006:508) referred to employability skills as non-technical skills and to basic skills, such as oral communication, reading, writing and arithmetic higher-order thinking skills. However, he also identified other skills that were relevant in the workplace, such as learning skills, the ability to strategize, problem-solving and decision-making skills, coupled with affective skills and traits, such as dependability and responsibility, a positive attitude, interpersonal skills, teamwork, self-discipline, self-management and the ability to work without supervision.

Employability is further defined by Dacre-Pool & Sewell, 2007:280, cited in Thomas, (2011:3), as having a set of abilities, knowledge and understanding and attributes that can make a person more likely to select and secure employment in professions in which they can be fulfilled and be successful. The study conducted by Beck and Halim (2008:154) found that oral communication, written communication, problem solving, analytical skills, computer applications and teamwork attributes were all highly rated when employers were making employment decisions. The types of skills that can affect the employment decision are referred to as employability skills.

In the view of Symington (2012:33), adaptability in the workplace is of key importance to employability, as it is significant to be aware of whom you are giving an opportunity to gain right to access information and systems that will assist the prospective employee in becoming familiar and appreciate new opportunities.

The reason why Coetzee (2008) PCRI model was chosen as the framework for this study, is because it brings together all the different views above about employability, which consist of all the skills, attributes and abilities that can contribute to the

employability of the individual. In addition, Coetzee & Schreuder (2011:82) described employability as the "individual's ability to gain access to employment and to contribute to the workplace". The opportunity to gain access to the workplace can enable students to adapt to new environments, especially in the area of work, and can result in enhancing their employability. Based on the discussion above, the definition of employability in the context of this study is adapted from the perspective of gaining access to the workplace to enable an individual to adjust their behaviour to work situations and to contribute more fully the work environment.

The study's objective is to assess the employability of undergraduates; therefore, the different employability models that can be used to understand and measure employability, culminating in the model selected for this study and are discussed below.

2.4 Models of employability

In order to gain insight into employability, numerous researchers have developed models to measure it. Some of these models are discussed below, namely, those of Fugate, Kinicki & Ashforth (2004), Fugate and Kinicki (2008), Yorke & Knight (2006), Dacre-Pool & Sewell (2007), Coetzee (2008), Bridgstock (2009) & Bezuidenhout (2011). This discussion focuses on their foundation, their conceptualisation of employability, their definition, and their dimensions and on how they build upon one another, leading to the model instrument that will be used to measure employability in this study. Finally, Coetzee's (2008) PCRI instrument is compared with the rest of the models, thus motivating its relevance to the study.

2.4.1 Heuristic Model

Fugate, Kinicki and Ashforth (2004)'s model, was designed according to three components, that is career identity, personal adaptability, and social and human capital (Fugate *et al.,* 2004). It conceptualises employability as the psycho-social construct that supports the individual's employability characteristics as related to the adaptive cognition effect and the behaviour that helps individuals to be aware of their career opportunities (Fugate *et al.,* 2004). Employability is defined as "a psycho-social behaviour that embodies individual characteristics that foster adaptive cognition conduct that affect and enhance the individual-work interface" (Fugate *et al.,* 2004:15). Adaptive cognition is the ability of individuals to change between their positions in their organisation and between other organisations (Symington, 2012:31).

The model devised by Fugate *et al.,* (2004) was derived from the work of Judge, Erez & Thoresen (2002). Fugate *et al.,* (2004:18) emphasised the importance of core self-evaluation in psychology in terms of synergy between "personal adaptability, career identity, social and human capital", all of which influence adaptability in the workplace. The heuristic model of employability is illustrated in Figure 2.1 below, which depicts three employability dimensions, namely "personal adaptability, career identity, and social and human capital". These are explained below.

2.4.1.1 Personal adaptability

This is the ability of the person to adapt to change and thus to meet the demands of changing work environments (Fugate *et al.,* 2004:19). Furthermore, Symington (2012:31) explained that personal adaptability is used for conceptualisation of employability and defined as the “willingness, capacity and competence in a continuously changing process”.

2.4.1.2 Career identity

This refers the individual’s relationship to role identity, occupational identity and organisational identity, which relates to the way in which the person defines the self (Fugate *et al.,* 2004:19). The career identity guides an individual to address the question” who am I?” within the work context (Bezuidenhout, 2011:32). It is further explained as a navigational tool for individuals when they find themselves outside an organisation (Fugate *et al.,* 2004:23).

2.4.1.3 Social and Human Capital

This forms part of the career identity entrenched in the employability construct (Fugate *et al.,* 2004:23). The researchers further explained that human capital includes the variables that play a role in individual career advancement, which may include age, education, job performance, tenure within an organisation and emotional intelligence. They concluded that human capital contributes to individual and organisational adaptability (Fugate *et al.,* 2004:24). Similarly, individual ability to secure employment is influenced by social aspects. Social capital represents goodwill, and relates to the interpersonal and career networking aspects of employability (Fugate *et al.,* 2004:30). Furthermore, social and human resources capabilities enable an individual to develop competencies to access a good quality support network (Bezuidenhout, 2011:74).

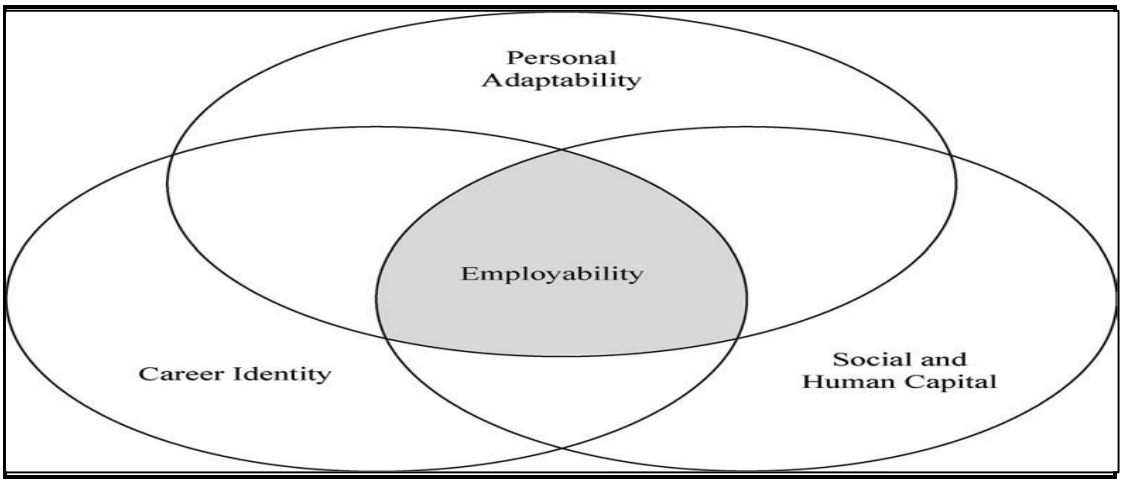

Figure 2.1: Heuristic model of employability
Source: Fugate *et al.,* 2004:19

In a nutshell, the model defines employability as a concept that focuses on flexibility in the workplace, which entails knowing the self and networking in order to realise new career opportunities. This model was developed for working people; hence, it is not appropriate for measuring graduate employability in the current study. Nonetheless, Figure 2.1 does show the synergy of the three employability dimensions, which may facilitate adaptability in the workplace; these dimensions can be developed by undergraduates during WIL once they are exposed to the work environment. This can be a chance for them to identify career opportunities and to develop social and human capital during the day-to-day work exposure.

However, the model is outdated, it is theory based rather than proactive and it focuses only on the dispositions that support the supply side of employability (that is getting a person fit for the workplace). As a result of these limitations, the USEM model was discovered which focuses on the psycho-social aspects of the employability construct, Yorke & Knight (2006) developed the so-called USEM model, which viewed employability as consisting of multiple disciplines with generic skills (McCash, 2008:4), as discussed in the next section.

2.4.2 USEM Model

This model builds on the work of Fugate, Kinicki & Ashforth (2004) by considering the employability concept, which consists of the psycho-social construct that foster adaptability in the work environment. Employability is "conceptualized as a form of work

specific active adaptability that enables workers to identify and realize career opportunities" (Fugate et al., 2004:17). Moreover, Fugate *et al*., (2004) perceived employability a psycho-social concept in their model, since it contains features that enable the individual to adapt and deal with changing work environments. In their different approach to measure employability, Yorke and Knight (2006:4) argued for a multidisciplinary approach, incorporating generic skills that are transferable and that consist of self-management skills. Thus, referred to employability as the skills, attributes and knowledge that make graduates likely to find employment and to be effective in their chosen career, for the benefit of themselves, industry and the economy (Yorke & Knight, 2006:5).

The model contains the generic skills and discipline skills identified as Understanding, Skills and Efficacy, all of which interconnect with Metacognition (hence the acronym USEM). The skills mentioned above are illustrated in Figure 2.2 below.

Generic skills intertwine with disciplinary content, disciplinary skills, workplace awareness and workplace experience, embedded in the critical understanding of graduate employability and how this is entwined with higher education curricula (Yorke & Knight, 2006:6).The model acronym, USEM, represents the four interrelated dimensions of the model, and they are described below Figure 2.2.

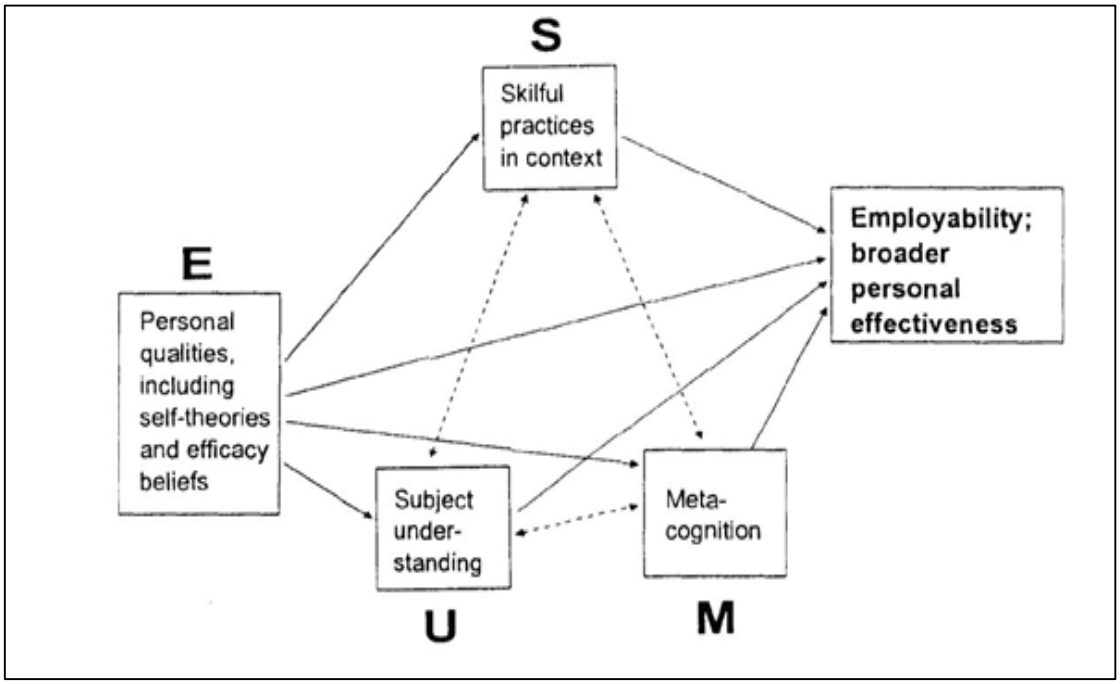

Figure 2.2: Dimensions of the USEM model

Source: Yorke and Knight (2006:5)

- **U**nderstanding preferred knowledge. This is the major outcome of higher education.

- **S**kills refer to “skill practices” or “skilful practices”, with the focus on awareness and responsiveness. The term ‘skilful practice’ needs to be broad to be qualified as skills, in contrast to the narrower meaning of traditional core or key skills.
- **E**fficacy beliefs show the advantage of students having flexible rather than fixed theories. Self-malleable theory regards tasks as learning opportunities as opposed to performance-related prospects displaying particular competencies and skills. The malleable theory is believed to be more likely to influence learning outcomes and increase the ability of the individual to deal with unique challenges.
- **M**etacognition comprises self-awareness related to learning and the capacity to reflect on an action (Yorke & Knight, 2006:5). This component is regarded as the key to developing employability in the curriculum, and it is recognised as being important for student learning (Yorke & Knight, 2006:6).

These four interrelated dimensions in the model together are believed to enhance employability. The model focuses on how skills learned in higher education can offer opportunities for students to enhance their employability. The emphasis of this model is thus on continuous learning to remain employable.

The model can be relevant in the current study context, since it emphasises the value of continuous learning. It also puts an emphasis on reflections in practice, which according to the study can be done during WIL. Nevertheless, the model does not cater for other relevant aspects that are considered to influence graduate employability, such as career self-management, human capital, social capital and emotional intelligence, all of which are highlighted in the literature as important aspects to be considered when measuring graduate employability. In addition, the model has no regard for social context; it is mainly mechanical in the sense that it is technical, and it does not explain what employability means in non-technical language (Dacre-Pool & Sewell, 2007:5).

The above-mentioned incompleteness of the model provided the basis for the development of the Career EDGE model by Dacre-Pool & Sewell (2007). The latter model simplified the employability construct definition, and identified and detailed the elements that can make a graduate employable; this model is discussed in the next section.

2.4.3 Career EDGE Model

The model was developed from the existing literature relating to employability models. The structure of the model was put together by integrating the Knight & York (2006) model with the Decision learning, Opportunity awareness, Transition learning and Self-awareness (DOTS) model (Law & Watts, 1977);(Dacre-Pool & Sewell, 2007:5). Employability is conceptualised as the combination of skills, knowledge, understanding and personal attributes that enable an individual to choose a career in which they can be content and successful (Dacre-Pool & Sewell, 2007:7). The model concentrates on the elements that make up the mnemonic 'Career EDGE', namely, **Career** (Development Learning), **E**xperience (Work and Life), **D**egree Subject Knowledge, Skills and Understanding, **G**eneric Skills, and **E**motional Intelligence. The essential elements of employability and the manner in which they interact within the model are shown in Figure 2.3. The Career EDGE elements are shown in the lower tier of the model. They are deemed necessary to enable graduates to reflect on and evaluate what they have learned, in order to develop the self-efficacy and self-confidence skills that will increase self-esteem and improve employability (Dacre-Pool & Sewell, 2007:8).

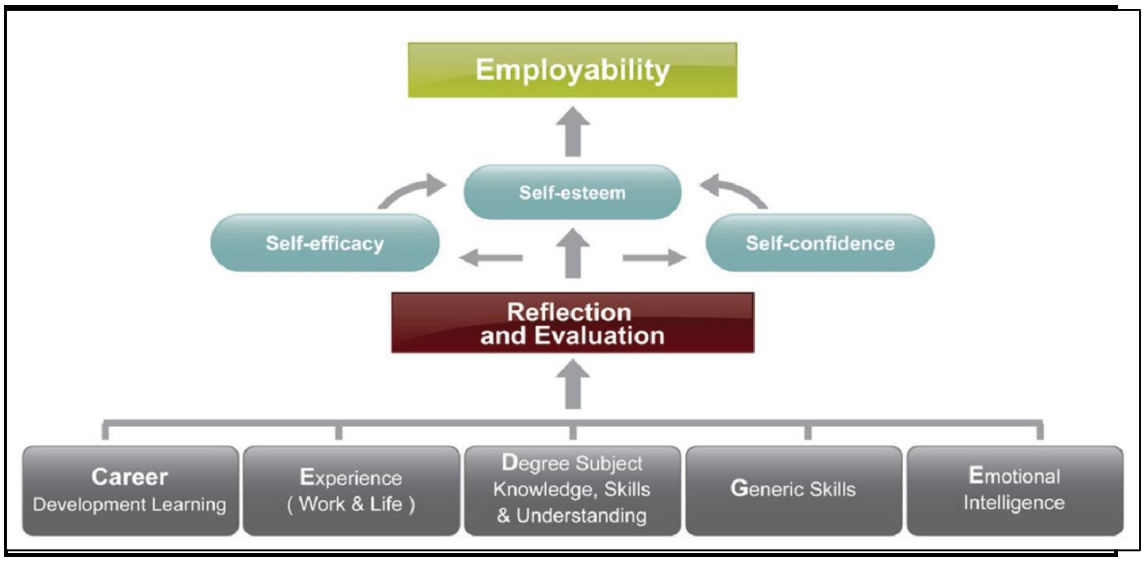

Figure 2.3: Career EDGE model

Source: Dacre-Pool and Sewell (2007)

This model focuses on the components that allow graduates to adapt to the work context. Moreover, it highlights the fact that graduates are not only provided with an opportunity to access the workplace, but also to develop the five important attributes

mentioned above (Dacre-Pool & Sewell, 2007:281). The model furthermore implies that graduates need to develop emotional intelligence, since they need to cope with their own emotions in order to adapt to the work environment (Dacre-Pool & Sewell, 2007:284).

The Career EDGE theory emphasises the elements that allow graduates to adapt to the work context; an important aspect of employability. In addition, the model may be useful in our study, in explaining to the stakeholders the usefulness of WIL, since its elements can be used to determine the employability of graduates. However, the model did not make provision for the volatile nature of the job market, nor for individual adaptability in the workplace, career choices and employability processes, all of which affect career management skills and career building skills. Hence, taking care of the aspects that were overlooked in the above model, Fugate & Kinicki (2008) developed a new employability dispositional model discussed below.

2.4.4 Dispositional employability Model

As a result of the limitations of the Fugate, Ashforth & Kinicki (2004) and the Career EDGE theory (2007) models. Subsequently Fugate & Kinicki (2008), developed an updated model, which caters for the individual characteristics of the supply and demand side of employability. It measures employability more practically in terms of psycho-social characteristics and dispositions, which can make people employable in different and volatile work contexts (Maslić Seršić & Tomas, 2014:593). Building on their previous work, Fugate & Kinicki (2008) developed a new model, which they defined as "a constellation of individual differences that define employees to (pro) actively adapt to their work and career environments" (Fugate & Kinicki, 2008:504). The focus of this model was on the grouping of people characteristics that are based on proactivity and adaptability, considering the volatile and fast-paced world of work, which may lead to uncertainty, requiring employees and organisations to act proactively (Fugate & Kinicki, 2008:505). The model consists of dimensions that are deemed important for adaptability and proactivity, such as openness to change, work and career resilience, work and career proactivity, career motivation and work identity. These dimensions are defined in Table 2.1 below.

Table 2.1: Dimensions of dispositional employability

Dimensions of employability	Definition
Work and career resilience	Individuals with work and career resilience possess some combination of the following attributes: they are optimistic about their career opportunities and work, they feel that they have control over the destiny of their careers, and/or they feel that they are able to make genuinely valuable contributions at work.
Openness to change at work	Individuals who are open to changes at work are receptive and willing to change and/or feel that changes are generally positive once they occur.
Work career proactivity	A proactive career orientation reflects people's tendencies and actions to gain information that may potentially affect their jobs and careers.
Career motivation	Individuals with career motivation tend to make specific career plans and strategies. People in this category are inclined to take control of their own career management and to set work/career-related goals.
Work identity	Work identity reflects the degree to which individuals define themselves in terms of a particular organisation, job, profession or industry. Work identity is characterised by a genuine interest in what one does, how well it is done, and what the impressions of others are.

Source: Fugate and Kinicki (2008:528)

Fugate & Kinicki (2008) developed a 25-item dispositional measure based on the above dimensions, which is applicable for measuring "employed and unemployed individuals, demographically diverse individuals, and samples in different contexts" (Fugate & Kinicki, 2008:521). The model expands on past knowledge and concentrates on proactive and reactive personal characteristics that could possibly enable individuals to identify and realise career opportunities.

In terms of the current study, Fugate & Kinicki's (2008) model can add value in respect of undergraduates undergoing WIL programmes, to identify their proactivity and reactiveness to become more employable, since the dispositions identified by the model are important in a volatile work environment and are likely to influence performance (Fugate & Kinicki, 2008:504). However, the model has some shortfalls; it lacks the application of skills and the required knowledge component. In addition, it does not consider the human capital and social capital dimensions, such as networking and relationship building, which are important for graduates' bid to gain access to employment opportunities (Symington, 2011:36). The model focuses more on

individuals who are already employed or who have work experience already, and therefore it is not considered appropriate for the current study, which focuses on undergraduates who are not yet in the workplace. Taking into consideration the shortfall of the dispositional model applicability to graduate employability. The Bridgstock (2009) conceptual model of graduate attributes was founded and is explained in the next section.

2.4.5 Conceptual Model

Using and learning from the other researchers' models, Bridgstock (2009) argued that the new and more volatile world of work requires graduates to possess more than just the generic skills to survive in the knowledge economy. He thus framed his model around the career management skills as a process, based on self-management and career building skills, which can lead to sustainable employability for lifelong careers for graduates (Bridgstock, 2009:36). Relating to the work of Dacre-Pool & Sewell (2007), the Bridgstock (2009) model focuses on the career management ability and adaptability of graduates in the new world of work, which necessitates that graduates learn through reflection, evaluation and the ability to make decisions to re-evaluate and improve their employability.

Career management is the deliberate management of work, learning about other aspects through insightful thought, evaluation and making decisions through the processes of self-management and career building, to achieve and demonstrate generic and discipline-specific skills (Bridgstock, 2009:35-38). The model is explained and illustrated in Figure 2.4. It consists of five dimensions, namely: "self-management skills, career building skills, generic discipline-specific skills, and the underpinning traits and dispositions that can be managed through the continuous processes of career management", which enable graduates to become and remain employable (Bridgstock, 2009:36).

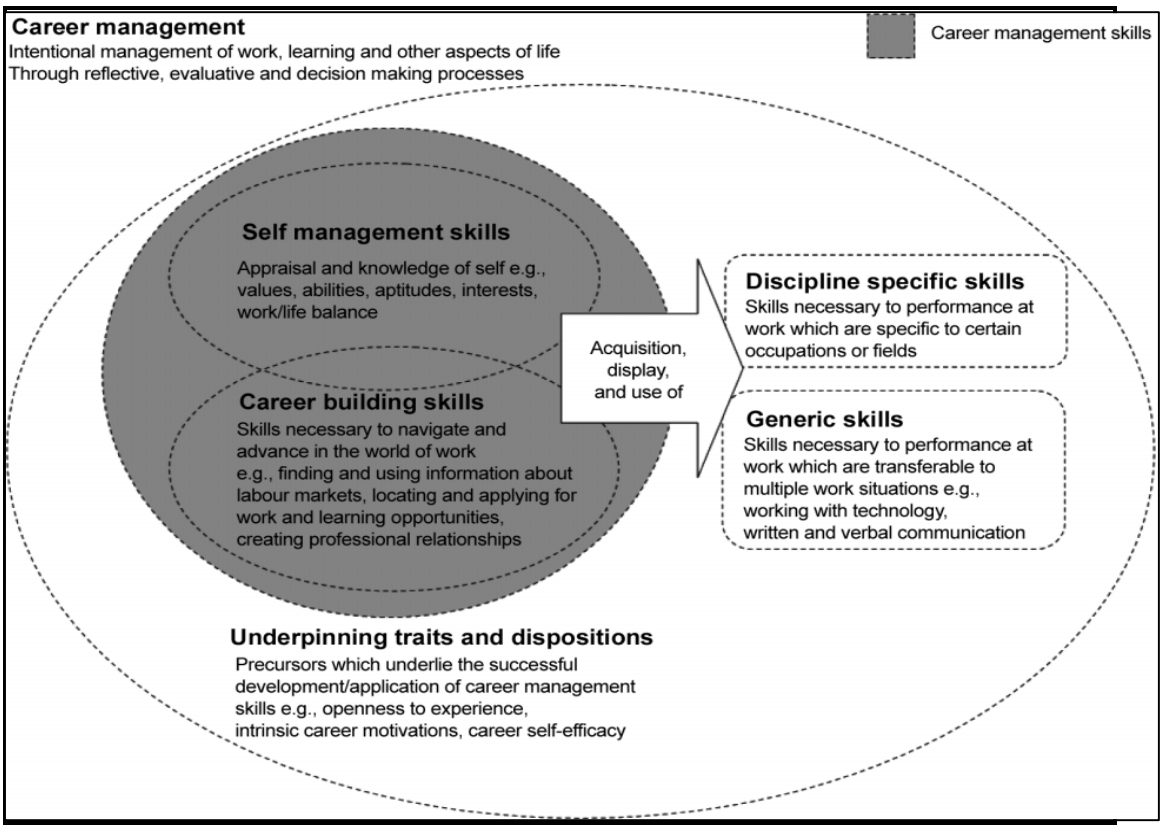

Figure 2.4: Bridgstock's conceptual model

Source: Bridgstock (2009:36)

- *Self-management skills* relate to individuals' self-appraisal and self-knowledge, specifically with regard to their values, abilities, interests and goals (Butts & Lockhood, 2003, cited in Bridgstock, 2009:62) and to their ability to balance work and life (Bridgstock, 2009:36).
- *Career building skills* consist of skills that enable graduates to research the work environment and develop an understanding of how to secure and maintain employment prospects to achieve desired career objectives (Bridgstock, 2009:38). This type of skill enables individuals to search for employment in the labour market, to learn and to develop their networking skills.
- *Generic skills* refer to transferable skills or competencies, such as technological, written and verbal communication skills. However, Bridgstock cautions that very few studies have attempted to provide evidence that such generic skills can lead to greater employability (Bridgstock, 2009:37).
- *Discipline specific skills* result from the specific subject matter; they are needed to perform a specific job (Bridgstock, 2009:37). They can be learned from a university programme, as part of the HEI curriculum (Bezuidenhout, 2011:76).

- *Underpinning traits and disposition* include graduates' openness to experience, intrinsic career motivation and career self-efficacy, which confirm the successful development of the advanced application of the career management skills (Bridgstock, 2009:36).

In addition, these attributes can allow individuals to create realistic career goals, to recognise work and life aspects, and to understand the functional relations between work, the economy and society at large (Bridgstock, 2009:35-36). The skills that can be developed through career management processes are employability skills. Furthermore, "they play a large part in determining to what extent and in what manner generic and discipline specific skills are learned and applied, for example, in applying for a job" (Bridgstock, 2009:36).

This model gives valuable insights with regard to qualities graduates should possess to be employable. Bridgstock (2009) made use of the previous models of Fugate *et al.,* (2004), Dacre-Pool & Sewell (2007), and Fugate & Kinicki (2008) to perfect the model; it included various underpinning traits and dispositions, consisting of openness, sociability, career self-efficacy, and intrinsic career motivation, among others. Moreover, the model emphasises the continuous process of career management, which relates to self-management skills, career management skills, generic skills and discipline specific skills, all of which enhance employability in the knowledge economy (Bridgstock, 2009:35). Although the model could be useful for this study, it however neglects the psycho-social aspects of employability and it has not been tested in the Southern African context.

In contrast, the latest Graduate Employability Model of Bezuidenhout (2011) was founded in the South African context, based on the previous models discussed above (Bezuidenhout, 2011:60). This model moreover includes the psycho-social dimension of the employability construct for the new world of work. This model is discussed in the following section.

2.4.6 Graduate Employability Model

The Graduate Employability Model was developed by Bezuidenhout (2011), based on the various dimensions of Bridgstock's (2009) model discussed in the previous section. The GEM conceptualises employability as a form of the capability, which supports individuals to be flexible to gain access to career opportunities in a proactive manner (Bezuidenhout, 2011:78). Adaptability forms the basis of this model; its importance in

the employability context is supported by other researchers, such as Fugate *et al.,* (2004), Knight & Yorke (2006), Martin & Healy (2008:10), McAdle *et al.,* (2005:209, cited in Bezuidenhout, 2011:78). For instance, Fugate *et al.* (2004:22) explained adaptability as the willingness of people to change and to familiarise themselves with the work environment. Furthermore, “propensity to learn, openness, internal locus of control and generalisation self-efficacy, as part of personal adaptability” were all recommended (Fugate *et al.,* 2004:22). Being adaptive requires graduates to develop skills that help them to respond to job opportunities in the new labour market (Bezuidenhout, 2011:79). Based on the background of the model, Bezuidenhout (2011) defined it as the “psycho-social construct, which represents a combination of attributes that promote proactive adaptability in a changing environment, which enhance an individual’s suitability for employment and the likelihood of obtaining career success” (Bezuidenhout, 2011:78).

Bezuidenhout’s (2011) GEM model stresses that the model dimensions need to influence adaptability in individuals’ careers, be it a student career or an employee career, in order to enhance employability. The criteria used to develop the model concepts are equivalent to the work of Fugate *et al.* (2004) and Fugate and Kinicki (2008). The GEM consists of three core pillars that lead to and enhance adaptability, namely: (a) "career self-management drive", (b) "cultural competence" and (c) "personal dispositions"; these are illustrated in Figure 2.5 and discussed below.

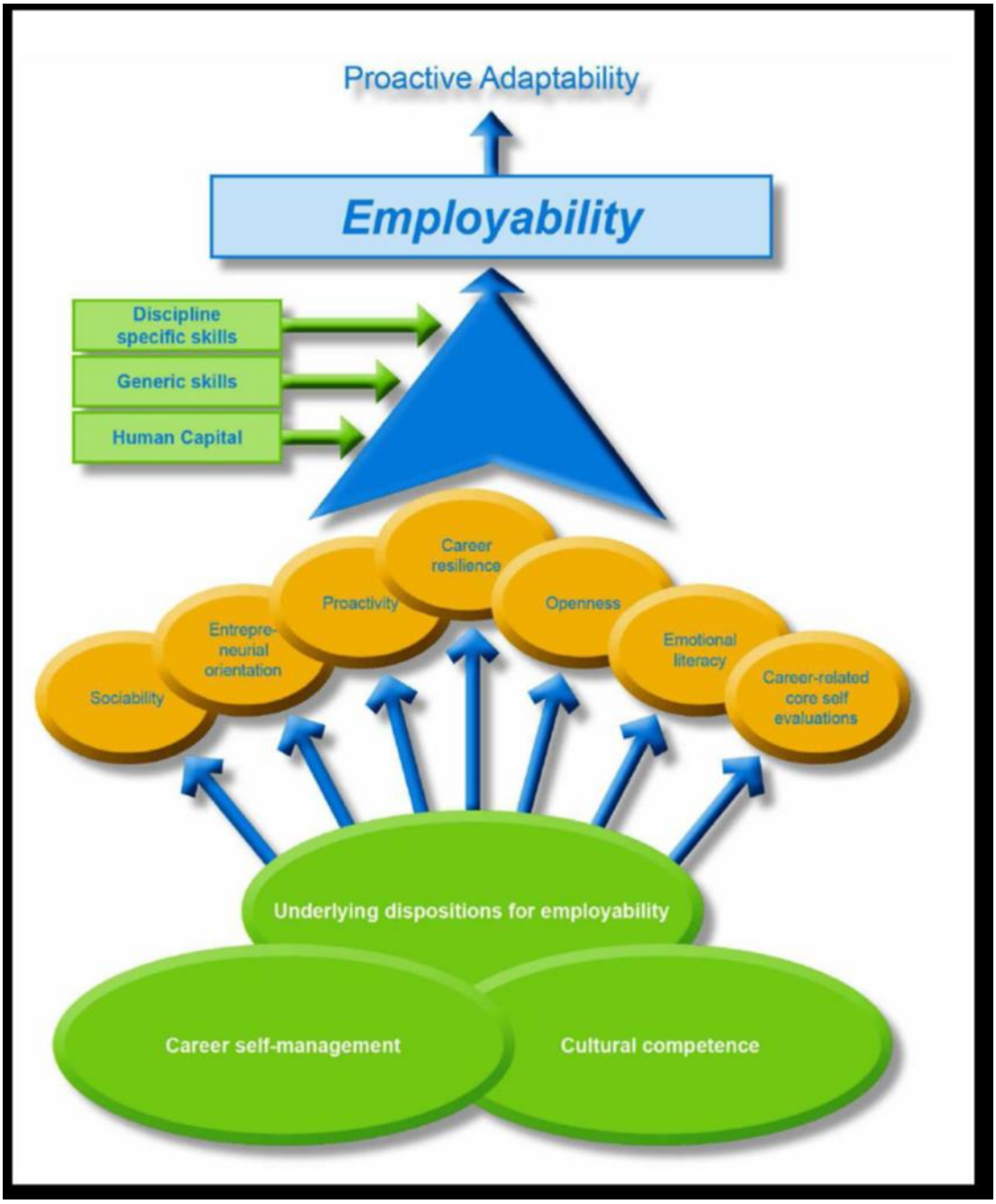

Figure 2.5: Graduate Employability Model

Source: Bezuidenhout (2011:80)

2.4.6.1 Career self-management drive

Career management is described as the ability to keep up with change in the industry through continuous learning and career planning (Bezuidenhout, 2011:81). Career identity is seen as a key dimension of career management drive, which is defined as the ability to understand the 'why' question, which puts the emphasis on understanding an individual's motives and interests. Career identity also includes motivational

components, such as aspirations and goals (Fugate *et al.,* 2004:17). Bezuidenhout (2011:81) identified career development and career building skill concepts as important drivers of the career management drive. In addition, career development is explained by Dacre-Pool & Sewell (2007:284) as a self-awareness practice for graduates, which involves researching job markets and finding job opportunities, which they identify with their career aspirations. Career building skills are described as the “skills used to find and use information about career labour markets to find work” (Bezuidenhout, 2011:81). It is also associated with career building skills to include the identification of both opportunities and threats within one’s industry; it is also related to the recognition of aspects that are desirable to be successful in the labour market. It includes being able to find the best opportunities for progress in one’s career, "knowing when to identify new employment or training opportunities, and knowing how to apply for work" (Bridgstock, 2009:38).

Bezuidenhout (2011:82) defined “career self-management drive as a tendency to proactively manage one’s career by regularly collecting career-related information so as to enhance knowledge of oneself, for example career identity, career aspirations, values, abilities and the external environment. This also includes the ability to develop realistic career goals and action plans to achieve these goals, and also to obtain feedback to enhance career decision making. In addition, career self-management includes "self-awareness and job opportunity exploration, feedback seeking, and formulating career goals and action plans". Career self-management does not work in isolation, but it is complemented by cultural competence. The next section thus discusses cultural competence.

2.4.6.2 Cultural competence

The ability of an individual to possess integrated knowledge, skills and personal traits to appreciate the views and opinions of others is regarded as cross-cultural competence (Chiu, Lonner, Ward & Matsumoto, 2013:844). In addition, Bezuidenhout (2011:84) explains that cultural competence consists of awareness about culture, language, values, rules of interaction, cultural differences, customs, and the history of diverse cultural groups. Cultural skills include being able to adapt to the behaviour of people in a specific cultural environment, for example conflict resolution. The personal attributes of the cultural context include certain personality traits, such as self-efficacy, flexibility and perseverance, in addition to one’s internalised cultural values. Cultural competence can enable students to work in a culturally diverse workplace and therefore increases their employability. Bezuidenhout (2011:86) further defined cultural

competence as a person's usefulness in understanding and effectively working with people across different groups.

2.4.6.3 Personal dispositions

The GEM model includes the *underlying dispositions of employability*, which interact with each other, promote adaptability and enhance employability and greater career success. They are included in Figure 2.5 and briefly explained as follows, according to Bezuidenhout (2011:101).

- Career related self-evaluation consists of higher order traits, such as "self-esteem, locus of control, generalized self-efficacy and emotional literacy". It relates to the basic evaluation that people make of themselves vis-à-vis their self-worth within the career context. Emotional literacy is the adaptive use of emotions to the extent to which individuals observe themselves able to be aware of, understand and manage emotions in themselves and in other people.
- Career resilience is a personal characteristic that helps an individual to achieve "adaptability, flexibility, self-confidence and competence", irrespective of adverse career conditions.
- Proactivity refers to a person's nature towards engaging in active role-orientation and implies future-orientated and self-initiated action to change and improve oneself or one's situation.
- Openness to change is the" extent to which individuals seek out new experiences and are willing to consider new ideas".
- Entrepreneurial orientation refers to "a preference for innovation and creativity, a propensity to take risks, a need for achievement, a tolerance for ambiguity and a preference for autonomy in exploring opportunities that exist in the career environment".
- Sociability means "being open to establishing and maintaining social contacts and utilising formal and informal networks to the advantage of one's career".

The above dispositions are at the core of the model. However, the model also includes technical skills, generic skills and human capital skills, as shown in the diagram (see Figure 2.5 above).

The Graduate Employability Model's conceptualisation of adaptability makes the model particularly relevant in the new work context (Symington, 2012:50). In addition, it includes most of the important aspects highlighted in the literature with regard to the previous models discussed in the current study. Furthermore, it relates employability to

the adaptability of students in a new work environment, emphasising cultural competence and entrepreneurial competencies (Bezuidenhout, 2011:105). This model further contains dimensions that may be relevant to measuring employability in relation to WIL, since students may acquire the dimensions discussed during the WIL exposure. However, the model has only been developed recently, and thus has not been explored extensively to measure employability, and it may thus be difficult to evaluate it as a measure of employability. Moreover, the model replicated most of the Psychological Career Resources Inventory employability measure characteristics in Coetzee's (2008) PCRI model, which is the model chosen for this study. It is thus relevant to discuss the PCRI model in the next section.

2.5 Psychological Career Resources Inventory (PCRI) model

The PCRI model was founded on the work of Fugate *et al.,* (2004), Fugate & Kinicki (2008), Yorke & Knight (2006), as well as Dacre-Pool & Sewell (2007). The model is based on the idea that individual employability includes constructs needed to deal effectively with the career-related changes occurring in the new world work. In addition, it was defined as "a psycho-social construct that embodies individual characteristics that foster adaptive cognition behaviour affect and enhance the individual-work interface" (Fugate *et al.,* 2004:15). Coetzee (2008) framed her work around the concept of Psychological Career Resources (PCRs), consisting of the employability subset skills which include values, attributes, skills and attitudes that can be linked to employability (Coetzee & Roythorne-Jacobs, 2007:47). PCRs are skills, attributes and abilities that can be developed by an individual to enhance their employability.

Employability comprises proactive career behaviours and skills, which enable individuals to gain access to the work environment and to use their meta-competencies to adapt to the work environment (Coetzee, 2008:2). Career meta-competencies are enablers for individuals to acquire specialised skills, which can result in general employability and professional specialisation of expertise (Coetzee, 2008:10). The career meta-competencies in this model include "knowing why," "knowing how," and "knowing who" (Defillippi & Arthur, 2004:310); this emphasises the broader competencies of the individual, important for career resources development, linking them to the values, attitudes, abilities, and attributes that lead to empowerment and attainment of employability. Fine-tuning the work of others, Coetzee (2008:10) developed the Psychological Career Resources Inventory (PCRI) model, which comprises five dimensions, namely "career preferences, career values, career drivers,

career enablers, and career harmonisers". These drive the consciousness of individuals, and lead to self-directed career behaviour, that can result in balanced psychological career behaviour. The interactions of the PCRs are illustrated in Figure 2.5 below.

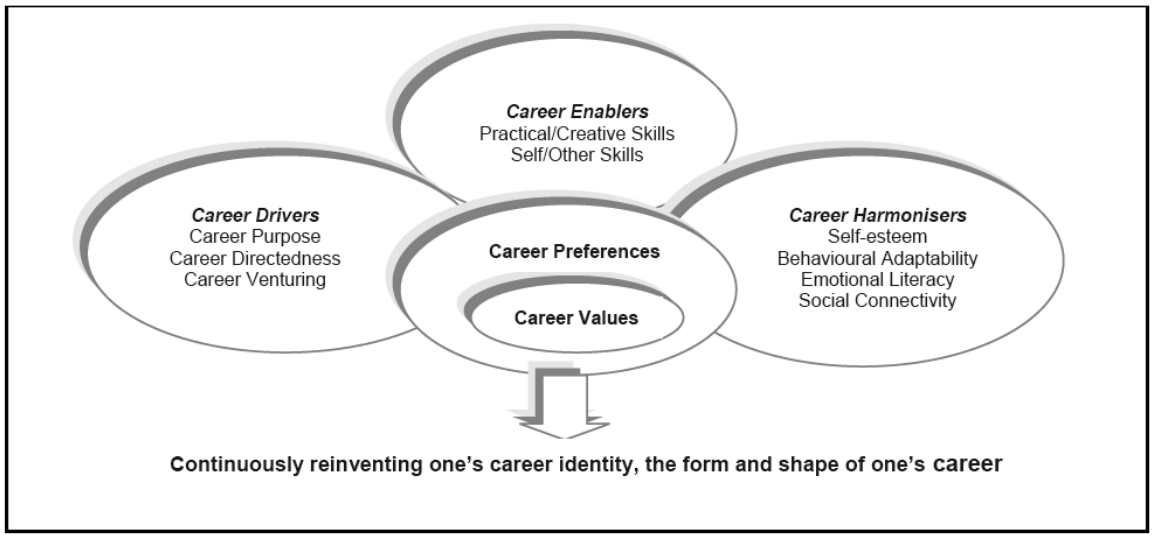

Figure 2.5: Psychological Career Resources Model

Source: Coetzee (2008:11)

2.5.1 Career preferences

These are individuals' different views about their career aspirations and the direction they want to follow in their careers, in order to guide their career decisions. Career preferences and values are regarded as the permanent cognitive abilities underlying individuals' thinking about their careers and what a career means to them, as derived from Driver (1982) and Kim (2005) (both cited in Coetzee & Esterhuizen, 2010:2). Brosseau (1990, cited in Coetzee, 2008:11) similarly explained that career preferences guide individuals' long-term career choices.

2.5.2 Career values

These are career choices that individuals link to their beliefs and that become the guiding light for individuals' long-term career aspirations. Career values motivate career preferences or career choices (Coetzee, 2008:11).

2.5.3 Career drivers

Career drivers refer to the quest and motivation for personal and professional goals as the driving forces that encourage and energisers individuals to be aware of their career and employment possibilities (Coetzee, 2008:11). Moreover, they guide individuals' towards their future career directions and goals, in terms of having to possess the right aptitude, strengths and knowing where and how to find employment opportunities (Coetzee, 2008:11).

2.5.4 Career enablers

These are regarded as practical work skills and other abilities that can be acquired, which will ensure career success. They refer to transferable skills, such as applied and innovative skills, and to self-management skills, such as soft skills that can assist individuals to succeed in their chosen careers (Coetzee, 2008:12). The concept of career enabler was derived from Sternberg's (1985) and Gardner's (1983) (cited in Coetzee, 2008:12), and relate to the notion of multiple intelligence, which is defined as the ability of apply intelligence in the world context or the ability to work with others (that is interpersonal skills), which Coetzee (2007) conceptualised as self-skills.

2.5.5 Career harmonisers

Career harmonisers comprise self-esteem, behavioural adaptability, emotional literacy and social connectivity. They are the psychological attributes that promote flexibility and balance (Bridgstock, 2009:36), as well as resiliency, and that control the career drivers to keep them in balance in order to prevent people from burnout when striving for new career aspirations (Coetzee, 2008:3). This dimension reflects the individual's career awareness, and their career-related cognitions, attitudes, ideals and skills, and it applies when individuals demonstrate an understanding by realising their goals (Coetzee & Berg, 2009:3). Similarly, Symington (2012:25) recognises that the PCRs consist of attributes and abilities, such as self-knowledge, behaviour adaptability, and career-orientation awareness, sense of purpose, self-esteem and emotional literacy. In addition, they link people's experience in terms of career satisfaction, views on employability and their ability to cope with the challenges of life and career aspirations (Coetzee & Berg, 2009:2).

The dimensions of "adaptability, career identity, and social and human capital" originated from Fugate *et al.*'s (2004) model. The PCRI model incorporated career-

resilience, career-proactivity, and career-motivation aspects from Fugate and Kinicki's (2006) model. The model also made use of Bridgstock's (2009) model of graduates' attributes for employability, since it includes career self-management, career building skills and supporting traits and characteristics. Moreover, the model focuses on career meta-competencies, which relate to knowing the why, how and who, which is considered particularly applicable in today's fast-paced and fast-changing work environment. Career meta-competencies can help to prepare the individual to adapt to the world of work. Similarly, those competencies can be tested on our cohort of graduates who have been exposed to the WIL intervention and those who have not, to determine their employability. The model thus provides a comprehensive and holistic instrument of measuring employability, since it has incorporated most of the dimensions of previous models, as discussed herein.

The discussion above has highlighted and explained different employability models and dimensions. The emphasis was on assessing how each model's dimensions could be applied to determine the employability of the undergraduates in the current study. In addition, it was explained how the models were built on one another. It will be helpful to compare and contrast them against Coetzee's PCRI model in order to establish whether this model is appropriate for the current study. This comparison is made in the next section.

2.6 Comparison of Coetzee's PCRI model with other models

The employability instruments differ in terms of their definitions, dimensions and focus, but similarities do exist among them. Table 2.2 below compares Coetzee's (2008) PCRI model with Fugate *et al*.'s (2004) model and Fugate and Kinicki's (2008) model. Both of the latter have a psychological dimension to determine employability. However, they concentrated on the individual characteristics and dispositions that make an employed individual employable. In the current study, the context is taken to refer to a weakness, since the study focuses on gauging the employability of graduates rather than already employed individuals, and therefore these two models were not considered suitable for measuring employability in the context of this study. Hence, the PCRI model was chosen, based on its reputation, its utilisation by other researchers and its capabilities to measure the employability of graduates.

However, the former models do have psychological dimensions built into them, which effectively laid the foundation for the PCRI model (Symington, 2012:18). The current

study focuses on employability competencies that can be developed by undergraduates, irrespective of whether they are employed or not. Moreover, employability in the new world of work has shifted from labour market knowledge and job search techniques to other attributes developed to determine the employability of individuals, such as: communication skills, interpersonal skills and team working, as well as personal attributes, including intellect and problem solving, analytic, critical and reflective ability, willingness to learn and continue learning, flexibility and adaptability attributes, among others (Harvey, 2003:1). According to Coetzee (2014:3), "A well-developed psychological career resources profile leads to self-empowering, proactive career action and behaviour that promote career agency and general employability." As a result, the PCRI was chosen as being the most appropriate for measuring the employability of undergraduates in this study.

In contrast to the PCRI, Dacre-Pool and Sewell's (2007) employability model focused on personal characteristics, such as the skills needed to be employable; these are not the focus of the current study though. The PCRI in contrast concentrates on competencies that can be developed to enhance employability. Despite the differences, there are similarities in terms of career-management competencies that can make a person choose a career. Comparing the Bridgstock (2009) and GEM (2011) models against Coetzee's (2008) model, it can be deduced that all three models borrow from each other in their development. These three models share commonalities in terms of their employability dimensions, career management competencies, self-management, and career enablers. However, there are differences in terms of the focus of each model. The GEM model focuses on graduate attributes and the Bridgstock (2009) model concentrates on individual attributes, whereas the PCRI model focuses on the individual meta-competencies. Table 2.2 below summaries the models discussed and compared in the study.

Table 2.2: Comparison of employability models

Employability model	Definition of employability	Dimensions of employability	Focus of model
Fugate, Kinicki and Ashforth's (2004) model of employability	"A psycho-social construct that embodies individual characteristics that foster adaptive cognition, behaviour and effect, and enhance the individual-work interface" (Fugate *et al.*, 2004:15).	• Personal adaptability • Career identity • Social and human capital	Individual characteristics
Fugate and Kinicki's (2008) dispositional model of employability	"A constellation of individual differences that predispose employees to adapt (pro)actively to their work career environments" (Fugate and Kinicki, 2008:503).	• Work and career resilience • Openness to change at work • Work and career proactivity • Career motivation • Work and career identity	Individual dispositions
Pool and Sewell's (2007) key to employability model	Employability is having "a set of skills, knowledge, understanding and personal attributes that make a person more likely to choose and secure occupations in which they can be satisfied and successful" (Pool and Sewell, 2007:280).	• Degree subject knowledge, experience and skills ▪ Generic skills (for example enterprising) ▪ Emotional intelligence ▪ Career Development Learning ▪ Experience Work and Life	Personal characteristics

Employability model	Definition of employability	Dimensions of employability	Focus of model
		▪ Reflection and Evaluation (personal development planning) Self-efficacy/Self-confidence/Self-esteem	
Bridgstock's (2009) conceptual model of graduate attributes for employability	"Adequate preparation tor transition to the world of work, and maintaining employability once there, involves activities such as clarification of personal aims and abilities, understanding the requirements of the labour market and the ability to engage actively in the career building process" (Brigstock, 2009:35).	• Career management • Self-management skills • Career building skills • Generic skills • Discipline-specific skills • Employability skills • Underpinning traits and dispositions	Graduate attributes

Employability model	Definition of employability	Dimensions of employability	Focus of model
Bezuidenhout's Graduate Employability Model (2011)	Employability refers to "a psycho-social construct, representing a combination of attributes (dispositions, values, attitudes and skills) that promote proactive adaptability in changing environments and that enhance an individual's suitability for employment and the likelihood of obtaining career success".	• Career self-management drive • Cultural competence • Personal dispositions for employability: ✓ Career-related core self-evaluations; ✓ Entrepreneurial orientation; ✓ Sociability; ✓ Career resilience; ✓ Proactivity; and ✓ Openness to change	Individual attributes
Coetzee's (2008) psychological career resources model	"Psychological career resources are defined as the set of career-related orientations, values, attitudes, abilities and attributes that lead to self-empowering career behaviour and promote general employability" (Coetzee and Roythorne-Jacobs, 2007:47).	• Career preferences and career values • Career drivers • Career enablers • Career harmonisers	Individual meta-competencies

Source: Bezuidenhout (2011:103-104)

The employability models compared in the preceding sections complement each other and share similarities, viewing employability as characteristics that individuals need to develop to be considered employable. However, the PCRI model is relevant to this study as its emphasises meta-competencies that can be developed to empower individuals to be employable in the context of the world of work. This is so because the study focuses on evaluating a group of undergraduates who underwent a WIL intervention and a group of those who did not. WIL focuses on students "learning by doing in context and with feedback", expecting that experiencing the workplace will enhance their employability (Milton & Jones, 2008:5). Therefore, it is considered from the perspective of empowering undergraduates to develop competencies to make them employable. It is based on this thinking that the PCRI model is deemed to be the most appropriate for this study.

The model is moreover capable of illustrating the connection between real work experiences and career success (Symington, 2012:25). In this study, undergraduates can gain work experience through a WIL intervention. This is supported by the finding that WIL is a powerful vehicle for the development of generic or professional skills that allow students to improve their employability (Patrick *et al.,* 2009:13). Reflecting on the models discussed in comparison with the PCRI model, there seems to be a lack of inclusiveness of meta-competencies in most of the models in contrast to the PCRI.

The PCRI model has integrated all the employability models and views discussed in the study in a condensed construct, by considering the employability dynamics required in the new world of work. In addition, the model is deemed appropriate to be applied in the Namibian context, since it was tested on unemployed graduates in the South African setting in Coetzee & Esterhuizen's (2010) significant research, which thus brings it close to the Namibian experience (Coetzee & Esterhuizen, 2010:1). Therefore, it is considered in the current study.

2.7 Conclusion

The main ideology and conceptualisation of the employability construct was built around the attributes and characteristics that are important for individuals to gain access to employment or to generate such employment. Employability in the study is interpreted as the psychological behaviour that enables individual to adapt to the changing work environments of the 21st century. It was also discussed in the context of psycho-social attributes that make individuals employable. After an extensive review,

in which numerous models were compared and contrasted, it was decided that Coetzee's model was the most appropriate for measuring employability in this study. It was thus chosen because it focuses on measuring the employability attributes that are the most relevant for the Namibian context of this study. It also contains the psychological elements that will enhance an individual's general employability, and it contains most of the psycho-social aspects of employability included in other employability models. It has already been utilised in other studies to measure the general employability of individuals in the South African context, which brings it fairly close to the Namibian context. The next chapter discusses the methodology used to conduct the study.

CHAPTER THREE: WILTHEORY AND RELATED INTERVENTIONS

3.1 Introduction

This chapter introduces the theory of Work Integrated Learning (WIL), and the foundations of this concept. It also looks at the application of various modalities, such as work exposure, internships, work-based learning, and apprenticeships, among others. Interventions to support WIL, such as partnerships and mentoring, are discussed. Lastly, the challenges and benefits of WIL for stakeholders and the role that stakeholders can play in promoting WIL interventions are examined.

3.2 Theory of Work Integrated Learning

According to Keating (2006, cited in Sattler, 2011:18), theories of WIL comprise approaches of making use of adult education, organisational development, cultural anthropology, psychology, sociology, education and human resources development. This study briefly outlines aspects of a well-known education theory that are applied in WIL, namely, the experiential learning theory, which outlines how learning takes place in the workplace.

WIL has emerged from the foundations of the experiential learning theory as formulated by Dewey (1938, cited in Kolb & Kolb, 2005:193). Sattler (2011:18), similarly argues that learning takes place through experience; consequently, education must provide opportunities for practice with guidance from educators, and it must support students in thinking and reflecting for them to build on their experience. The experiential learning theory is described as “the process whereby knowledge is created through the transformation of experience” (Kolb, 1984:41, cited in McCarthy, 2010:132). This understanding is reinforced by other researchers who claim that real knowledge transfer takes place when students are exposed to workplace environments (Dressler and Keeling, 2004; Keating, 2006, cited in Sattler, 2011:18). Building on the foundations of Dewey (1938), Kolb (1985, cited in Kolb & Kolb, 2005:194) complemented the theory of experiential learning with a “holistic model of the experiential learning process”, based on the following principles:

- Learning is regarded as a process rather than an outcome to improvement of higher education should emphasise engaging students in the learning process.
- All learning comprises relearning.
- Disagreement and the resolution of conflicts is what drives learning.
- Learning comprises an all-inclusive process of adapting to the world.
- Interactions between the person and the environment result in learning.
- Learning is the process of creating knowledge.

Kolb developed an experiential learning cycle comprising four phases, starting with concrete experience, through reflective observation, to abstract conceptualisation, to active experimentation (see Figure 2.1 below). This process is regarded as ideal learning (McCarthy, 2010:132). In addition to this reflective cycle, Kolb also developed the Learning Styles Inventory to enhance understanding of the reflective learning process (McCarthy, 2010:33). The Learning Styles Inventory consists of four learning styles: diverger, assimilator, converger and accommodator (McCarthy, 2010:133. They are briefly explained below:

- Divergers

  Divergers prefer to learn through Concrete Experience (CE) processing these through Reflective Observation (RO). They are best at viewing existing situations from many different points of view, and perform better in situations requiring the generation of new ideas and brainstorming. They capitalise on their creative abilities and mindfulness, which they use to interpret information.

- Accommodators

  Accommodators take in knowledge through CE. However, they favour grasping it through lively experimentation. They enjoy carrying out plans and connecting themselves in new and stimulating experiences. They may tend to respond on their “gut” feeling rather than on rational analysis.

- Assimilators

  Assimilators gain knowledge through nonconcrete conceptualisation, and they process it through RO. Assimilators are best at appreciating a wide range of information and putting the information into a concise, logical form. Their strong point lie in inductive reasoning and the ability to create theoretical models.

- Convergers

  Convergers approach knowledge through abstract conceptualisation, but they like to process knowledge through active experimentation. They like to deal with practical activities and challenges rather than with societal and interactive matters. Their strength lies in problem solving, decision-making, and the practical application of ideas (McCarthy, 2010:33).

These four learning styles can be accommodated in Kolb's reflective learning process at any stage of the process (McCarthy, 2010:133). Figure 3.1 below illustrates how the four learning styles fit within Kolb's four-stage cycle.

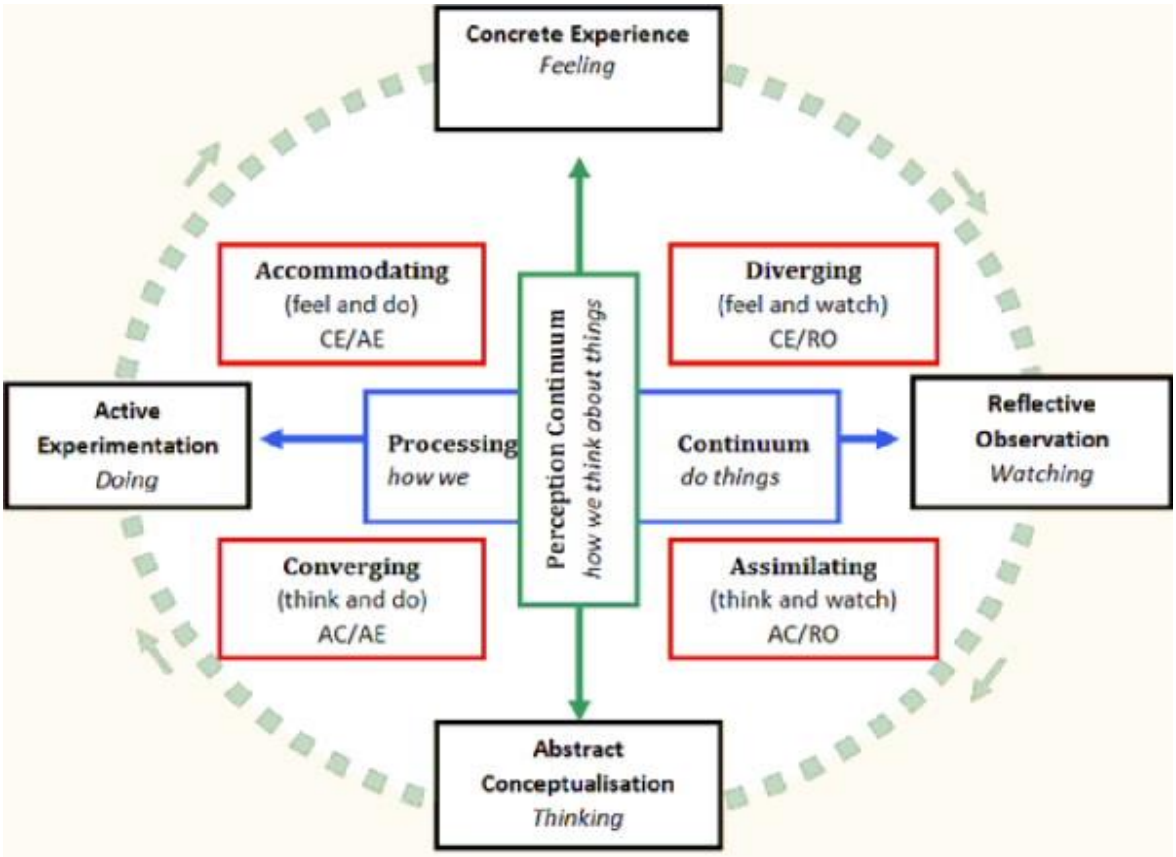

Figure 3.1: Experiential Learning Cycle and Basic Learning Styles

Source: https://dyonhoekstra.weebly.com/kolbs-learning-styles.html

Over the years, the concept of experiential learning evolved into the WIL approach (Winberg, Engel-Hills, Garraway & Jacobs, 2011:7). The practice gained momentum and resulted in the formation of the World Council for Cooperative Education. In 1983, this was renamed as the World Association for Cooperative Education (WACE), (http://www.waceinc.org/history.html). According to WACE, "Work Integrated Learning combines professional work experience with classroom studies in many forms to

include: Internships, Study Abroad, Co-operative Education, Clinical rotations, Community Service and Student teaching" (http://www.waceinc.org/about.html). Therefore, WIL can be seen as an umbrella term to describe the different approaches used to integrate theoretical learning with practice in the workplace by higher education (National Strategy for Cooperative Education Report, 2013:9). In order to improve the understanding of WIL, the concept is discussed in the next section.

3.3 Concept of Work Integrated Learning

WIL is an important educational medium requiring workplace engagement, since a student's career decisions are not made just once in the student's lifetime, but at various stages of their careers (Crump, Johnson, Coll & Zegwaard, 2011:289). WIL is viewed as a powerful method of developing general and professional skills improving employability and work preparedness (Patrick, Peach & Pocknee, 2009:13). Students working in or together with industry will become better acquainted with the world of work and more able to apply their theoretical knowledge in actual business situations (Gupta, Burns & Schiferl, 2010:28). Beck and Halim (2008:154) stressed that internships contribute to the development of career related skills in a workplace setting in order to learn the reality of professional practice. This enables interns to gain skills that are relevant to successful careers.

Furthermore, the global economic environment and global competition no longer welcome the "lone ranger" mentality of students or potential employees (in other words not resonating with the organisation objectives), because organisations tend to seek members who will identify with an organisation's missions and goals and able to make decisions and work in a team (Lopez, 2008:31). Moreover, according to Bezuidenhout (2011:60), a lone student can no longer be guaranteed of being employable in the competitive and ever-changing work environment. Educators and employers thus need strong partnerships in order to develop the structures that will enable employers to influence the curriculum as well as to support students in acquiring the skills needed to enhancing their employability (White Paper, 2013:9, cited in Blom, 2014:ix). The partnerships referred to above are necessary for the effective implementation and administration of WIL.

WIL has existed for a long time, under different approaches, such as cooperative education, action learning, experiential learning and internships (Leong & Kavanagh, 2013:13). Students with internships receive more job offers than those without

internship experience on their resumé (Beck & Halim, 2008:152). Moreover, internships give students an opportunity to sample the career they wish to follow, and to determine whether they are in fact suited for that career before they commit to accepting a particular job offer or following a particular degree path (Beck & Halim, 2008:152). Internships also enable individuals to gain knowledge of the qualifications and duties of a particular position and to explore their interests in a field (Bukaliya, 2012:120). WIL programmes can be regarded as a pre-recruitment employment programme. Employers are provided with the opportunity to be involved in graduate recruitment process (Smith *et al.*, 2009:24). They thus offer an opportunity for employers to assess a prospective employee on the job and to determine their level of employability and suitability for a particular position.

WIL is meant to develop students into knowledge workers in the knowledge economy. Through WIL competence are enhanced in both specific vocational skills and the understanding of linkages between theoretical, practical and general life experience (Cooper *et al.*, 2010:4). Moreover, Winberg *et al.* (2011:4) explained that WIL is envisaged to enhance students' learning in order to respond to employability concerns; to achieve this, certain curricular pedagogical and assessment tools are developed to aid the implementation.

Furthermore, Smith *et al.,* (2009:22) argued that WIL is not purely a process to engage in work experience in the hope that they will later gain permanent employment from the firm. Instead, WIL should primarily be understood as an educational process, based on service and experience, combined with foundational pedagogy and theory. WIL provides the opportunity to develop and enhance both technical and non-technical employability skills (O'Reilly, McCall & Khoury, 2010:0).

WIL is "an education process, services and experience, with foundational pedagogy and theory aligned with the process and outcomes of experiential learning, which seeks to secure and maximise learning through experience, outside the education tradition" (Smith *et al.*, 2009:23). Furthermore, Patrick *et al.* (2009:13) explained that WIL is not just a type of work placement, as it is referred by its stakeholders; it can be viewed more than that, it can be introduced in the curriculum, incorporating progressive teaching and assessment methods to expose students to a transformative learning experience to the world of work. There are different approaches of WIL, which can be differentiated in terms of terminology, purpose, duration, whether academic credits are allocated or not, whether it is compulsory or elective, level of supervision and

assessment protocols (Sattler, 2011:29). To better understand the WIL approaches it is important to discuss the various modalities covered in the next subsection.

3.4 WIL Modalities

WIL is an educational method that combines theoretical learning with workplace learning; it involves curricula as well as pedagogical and assessment activities, and it requires HEIs to adopt it through different modalities (Winberg *et al.,* 2011:78). WIL can however also take place through internships without institutional structures being in place, but still with the ultimate goal for students to acquire work experience in their field of study (Kramer & Usher, 2011:4). In addition, WIL placements are organised in different ways across universities, colleges, and vocational training institutions, although the workplace is regarded as "the central piece of the learning" (Stirling, Kerr, Banwell, MacPherson & Heron, 2014:5). It appears from the literature that students participate in WIL programmes to hone the knowledge they have gained in the classroom. WIL modalities in higher education vary across the world, although all lead to the common objective of integrating theoretical and practical knowledge (Winberg *et al.,* 2011:3).

In Australian universities, WIL modalities consist of placement, project work, simulation and virtual WIL (Patrick *et al.,* 2009:13). In South Africa, the Council of Higher Education defined various WIL modalities, that is. Work Directed Theoretical Learning (WDTL), Problem Based Learning (PBL), Project Based Learning (PBJL) and Work Place Learning (WPL) (Winberg *et al.,* 2011:16). In Germany, the state of Baden-Württemberg created the *Berufsakademie* model, which involves dual learning, internship and apprenticeship modalities 'dual learning' meaning a combination of studying and apprenticeship (Reinhard, 2006:15). Similarly, in Namibia, WIL consists of various modalities, which do not differ much from the modalities highlighted above. They comprise Work Exposure (WE), Internships, Work Based Learning (WBL) and Apprenticeship (National Strategy for Cooperative Education Report, 2013:10-13). Since this study is conducted in Namibia, the modalities highlighted are recommended in the framework of the National Strategy for Cooperative Education Framework report in Namibia.

3.4.1 Work Exposure

Work Exposure (WE) consists of short visits by students to an industry or workplace to observe work tasks, processes, systems and technology in the context of application

in a real workplace (National Strategy for Cooperative Education Report, 2013:13). WIL includes work-based learning, placement, sandwich programmes (which refers to combining work and studies), internships, life projects and industry visits (The Quality Assurance Agency for Higher Education (QQI), 2009:1). They expose students to the work environment and work operations primarily in order for students to observe and learn, but not to participate in work activities, with the ultimate goal of becoming familiar with the workplace setting.

3.4.2 Internships

An internship is described by Abeysekera (2006:10) as “any carefully monitored work or service experience in which a student has intentional learning goals and reflects actively on what is being learned throughout the experience”. In addition, it is referred to as an opportunity to acquire thorough work experience training in order to contribute to the operations of the workplace, which can in turn afford students an opportunity to acquire more skills (Beggs, Ross & Goodwin, 2008:32). Internships provide for substantial periods of authentic work experience, which can be offered either during a course or after completion of a course, as part of the requirement for certification (National Strategy for Cooperative Education Report, 2013:10). Academic and workplace knowledge are thus connected in a valuable way, which adds to the student’s skill development through integrating theory into practice which supports the objective of WIL.

3.4.3 Work Based Learning (WBL)

Work Based Learning (WBL) is defined as "a widely utilised tool employed by both HEIs and businesses to educate and develop their students or work-force” (Lemanski, Mewis & Overton, 2011:5). It is applied when the student is already in the workplace; the programme is designed to take into account the interests of both the employer and of the learner (Jackson, 2006:3). This modality is flexible and discretionary; students can start with academic study and then apply what they have learned in the workplace, or vice versa which is in line with the WIL aim of combining academic and workplace learning (Sattler, 2011:26).

3.4.4 Apprenticeship

An apprenticeship focuses on developing vocational skills in certain occupations, such as artisans and plumbers, while placing little emphasis on theoretical knowledge

(Keleher, Patil & Harreveld, 2011:6). It is a formal approach that entails on-the-job training, which takes place within a strictly regulated work context over a period of time (Winberg *et al.,* 2011:3). It is a systematic way of learning (Sattler, 2011:29). It is regulated through a contractual relationship between the apprentice, the employer and the HEI. It ends with a formal test and an award (National Strategy for Cooperative Education Report, 2013:11).

The modalities discussed above are well known and often used when implementing the WIL programme (Winberg *et al*., 2011:16). In the Namibian environment, where industry may not be able to absorb all the undergraduates who seek WIL placement opportunities, other forms of WIL modalities are recommended and discussed below.

3.4.5 Berufsakademie model

This model comprises a three year-long work contract combined with academic learning. It originated in Baden-Württemberg in Germany and was intended to prepare the students there for the technical and global work environment (Reinhard, 2006:16). The model is unique in comparison with most of the WIL models offered in Germany's HEIs (Reinhard, 2006:16). The advantage of this model is that students are employed full time and thus enjoy compensation and benefits, whilst their employability is enhanced at the same time.

3.4.6 Service Learning

Service learning is a form of project-based learning, in other words, learning that takes place through participation in certain projects (Winberg *et al.,* 2011:37). For instance, it can take place through servicing of the local community, aimed at exposing students to real-life learning opportunities (Sattler, 2011:26). Service learning workplaces are not formal; it usually is a form of voluntarism, mostly in Non-Governmental Organisations (NGOs) and community service organisations. Nevertheless, it contains all the elements of workplace experience in the formal economy. However, the required task, activities and assessment of learning may need to be adjusted to accommodate the non-formal nature of work in the service learning environment.

3.4.7 Simulated work

This involves an imitation or simulation of real work contexts, where students learn as if they are in the real workplace (Cooper *et al.,* 2010:75). Simulated work can be

presented at education and training institutions, for example, in the form of laboratory work or by servicing vehicles in mechanical engineering games, or playing flight simulation and business simulation games (Winberg *et al.,* 2011:76). In higher education, simulation can occur in community-based research or industry-related research that is undertaken by students under the supervision of an academic researcher and industry executive on behalf of the organisation (National Strategy for Cooperative Education Report, 2013:12). Multidisciplinary or interdisciplinary student research teams belong under this modality, since students need to apply their theoretical knowledge to solve real business ideas (National Strategy for Cooperative Education Report, 2013:12).

The modalities discussed above differ in terms of their application to learning, the place of learning and the duration of learning. However, they all serve a common purpose, which is to apply theory to practice through experiential learning and practice. Although there are different WIL modalities as well as definitions and views of WIL, the basic principles are all similar. Therefore, this thesis views WIL as the application of theoretical or academic learning in the workplace.

WIL programmes cannot happen without support. Certain interventions need to be in place to ensure successful implementation of WIL. The interventions that are relevant to this study are partnerships with stakeholders (students, HEIs and Industry) and mentoring applied in WIL modalities that is Work Based Learning and Community Based Learning.

3.5 Interventions to support WIL

The previous section has made it clear that WIL cannot happen in a vacuum: all the interventions need support for them to be implemented effectively. Strong partnerships and collaborations between different stakeholders in WIL are thus highly recommended. Moreover the interventions such as mentoring that supports WIL and this issue will be discussed below.

3.5.1 Partnership

Strong partnership and collaboration with stakeholders are important for achieving the objectives of WIL. Barkhuizen and Schutte (2014:12) argue that industry involvement in cooperative education is vital in order to incorporate effective learning in the workplace. Blom (2014:7) too supports strong partnerships that promote more

workplace training opportunities for undergraduates and believes these to be key to effectively implementing WIL. The success of WIL programmes depends on the development and maintenance of such relationships by HEIs with the stakeholders involved in WIL (Bates, 2010:16). Active participation in the WIL process by industry is required to provide the best integrated learning opportunities to students (Barkhuizen & Schutte, 2014:12). HEIs need to involve employers and educators as partners to develop the structures and support needed by students to acquire the skills that they need to become employable. The WIL stakeholders identified in the study are thus students, industry and HEIs. They all have different roles to play. Their roles, as set out in Martin & Hughes (2009), are explained below.

3.5.1.1 Students

For students to make the most of their workplace learning opportunities, they should take responsibility for their learning, which needs to be self-motivated in order for them to develop initiative, decision-making and self-management skills. Students are thus responsible for arranging their own placement. Once they have secured such placement, they need to adhere to the policies and duties outlined by the organisation, and to contribute and perform as agreed upon with the organisation (Martin & Hughes, 2009:26). In addition, they need to keep a reflective journal, which will help them to write a reflective report that can highlight their learning, successes and challenges and that is a portfolio of evidence (Martin, Rees & Edwards, 2011:34).

3.5.1.2 Higher Education Institution (HEIs)

There is a need for HEIs to integrate student work experience into the curriculum and to provide career-driven programmes. HEIs are responsible for finding work placements, and liaising with students and industry, before, during and after placements to maintain good relations with industry stakeholders. This is also used as a feedback mechanism to inform curriculum programme development and ensure that career-driven programmes are developed. It is the HEI's responsibility to offer assistance, encouragement, support and professional direction to the students, mostly in helping them to select an organisation that meets the required learning areas that students need to be exposed to, according to the specific course requirements (Martin & Hughes, 2009:26).

3.5.1.3 Industry

The employer too has important roles to play in terms of providing learning opportunities to students. In addition, the employer is responsible for training students and imparting relevant knowledge to them, as well as influencing the university curriculum through feedback mechanisms. The HEIs in turn should provide supervision and ensure that the learning objectives of the students are met. Moreover, mentorship, guidance support and ongoing feedback to the students are all part of the employer's responsibility in WIL. Mentorship is a method of transferring skills and knowledge from the industry supervisor or mentor to the students (Martin & Hughes, 2009:26). Mentorship is an important tool that contributes to the success of the WIL programme and it is thus discussed in detail in the next section.

3.5.2 Mentoring

Mentorship forms an important part of WIL programmes. In order to educate a competitive workforce in the 21st century, mentorship is vital (Masethe & Masethe, 2013:1). The concept of mentoring already existed 3000 years ago; the word mentor comes from the Ancient Greek, meaning advisor of thought (Gavey, Stokes & Megginson, 2009:12). According to Raven (2011:14), mentoring allows for personal and professional development through guidance and support during the various work-related learning processes. In mentoring, skills and information are transferred from an experienced individual to an individual who wishes to learn such skills and information. Research conducted by Pop and Backhuizen (2010:5) indicated that verbal communication, self-motivation, teamwork and goal directedness are important soft skills that are developed by interns in the workplace during mentorship. Mentoring is an essential element of transferring knowledge and skills during WIL.

The contribution of mentoring towards work-based learning cannot be over-emphasised. Gazzard (2011), for instance, developed a mentoring programme focused on the mentoring of students during work-based learning activities. It was designed for a graduate internship that was named the "Overcome Recession Bioscience Investment in Skills" (ORBIS) programme (Gazzard, 2011:140). The objectives of that programme were to provide mentorship to enable interns to develop their employability and enhance their career planning capability (Gazzard, 2011:135). The ORBIS mentoring programme can be applied in two WIL modalities, namely, Work Based Learning and Community Based Learning. The following section discusses how mentoring is applied.

3.5.2.1 Work Based Learning (WBL)

In the ORBIS mentoring programme, students participated in twenty-six weeks of Work Based Learning (WBL). The aim was to develop knowledge and skills, and it was an opportunity for employers to mentor and for students to learn. Through mentorship and work experience students developed specific knowledge and skills, and gained an understanding of the particular workplace sector and culture. The intervention allowed students to develop industry, functional and job-specific knowledge that resulted in high employability (Gazzard, 2011).

3.5.2.2 Community Based Learning

Correspondingly to the WBL, a six-week community learning intervention targeted towards developing students' core employability skills was implemented. Students who worked in the community setting were assigned mentors. These mentors used their work experience to teach students certain skills within a short period. In addition to students gaining skills and knowledge, developmental mentoring networks were formed, which assisted students to make a greater impact in the community. This exercise resulted in the transfer of technical knowledge, in the acquisition of personal skills and in the development of industry-based and functional skills, all of which enhanced employability (Gazzard, 2011:140). The ORBIS mentoring model is illustrated in Figure 3.2 below.

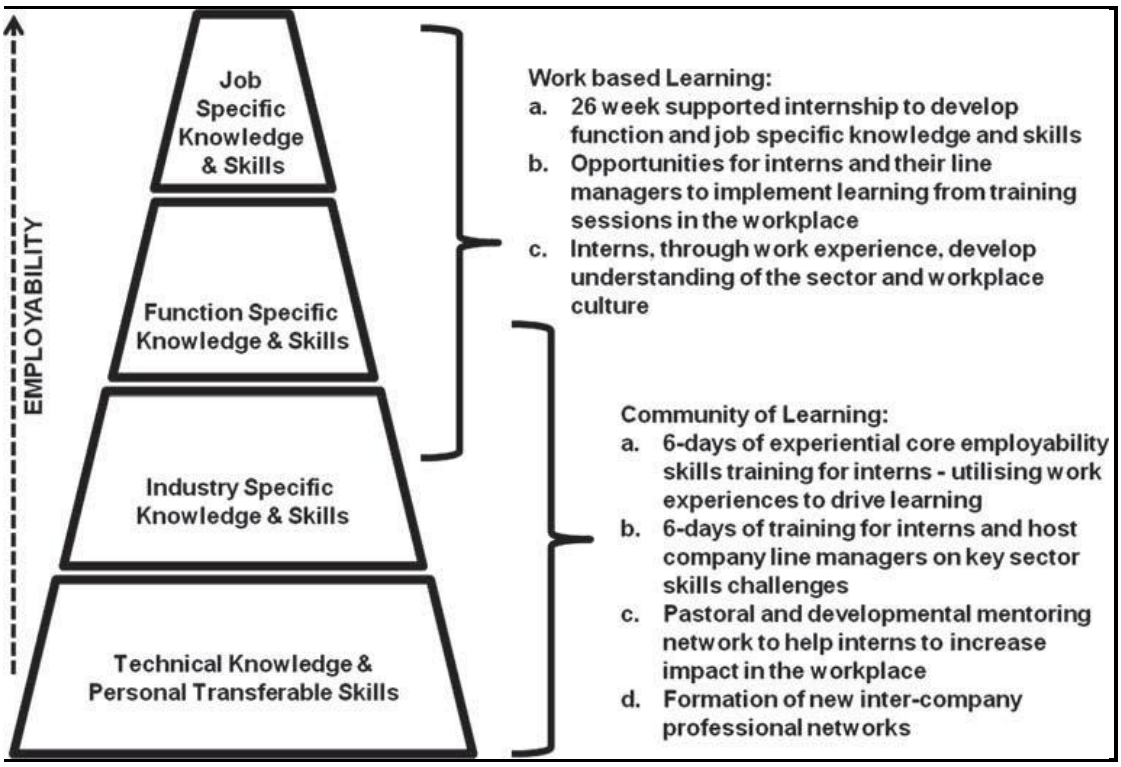

Figure 3.2: Design of the Overcome Recession Bioscience Investment in Skills (ORBIS) Graduate Internship Programme

Source: Gazzard (2011:140)

It is thus evident from the discussion above that interventions such as mentoring do benefit students during WBL. Berezuik (2010:14) similarly maintained that new graduates would become competent and efficient more quickly if they were guided by mentors. Additionally, Wheeler, Austin & Glass (2012:3) stated that mentoring creates an opportunity for knowledge to be transferred to the students, together with an understanding of the employers' needs and the particular job's professional practices. However, it should be noted that mentoring of students during WIL requires the full support from stakeholders, if the benefits of WIL are to be realised.

WIL thus depends on a strong partnership between HEIs and industry, which in turn requires extensive processes in curriculum implementation and pedagogies to support learning to take place in the work environment (Choy & Delahaye, 2011:1). Although emphasis is put on WIL, "in many instances there is no incentive for industry to participate in the time and resource hungry practice of taking students under their wing and facilitating learning in real world work" (Cooper *et al.,* 2010:4).

In addition, industry and other WIL stakeholders are often not informed or sufficiently knowledgeable about WIL participation and its benefits, and most of the lecturers in HEIs are not conversant with WIL either (Collis, 2010:3). Usually, therefore, WIL is not implemented smoothly. There are resultant challenges and benefits that may be realised from implanting WIL programmes in the higher education curriculum. In order for stakeholders to be better informed in this regard, it is therefore appropriate to consider the pros and cons of WIL; the next sections thus outline the challenges and benefits for stakeholders in WIL.

3.6 Benefits for Stakeholders

Overall, stakeholders involved in internship programmes experienced more positive than negative outcomes. The application of knowledge learnt in the HEI enabled students to understand the competencies required in the workplace, increasing their confidence and career exposure (Bukaliya, 2012:120). Apart from hands-on experience gained, aspects such as receiving remuneration for their work and having good conditions of service were also of great importance to undergraduates in an internship experience (Beggs *et al.,* 2008:320).

Research conducted by Patrick *et al.,* (2009:13) highlighted the advantage of identifying specific workplaces as learning environments to provide the chance for students to apply theory to practice gain practical work experience, while acquiring a cultural cognizance of their field of study. Students also gained soft skills, including enhanced thinking, motivation to learn, problem solving skills, and the ability to apply acquired knowledge. The personal benefits that accrued to the students also included increased self-esteem, improvements in communication skills, good interpersonal skills and better career awareness. These benefits allow undergraduates to assess their suitability for a particular career.

Beck & Halim (2008:152) stated that organisations hosting students could evaluate potential employees over the period, without committing to fulltime employment. In other words, they argue that it is possible to assess the attitudes and technical competencies much more effectively when working with the student than could be done through a job interview with a prospective employee. In addition, another major benefit identified includes the opportunity to integrate what was learnt in the classroom with professional practice. Labour-intensive industries, such as hotels, benefit from hiring interns to assist during peak periods allowing them to provide optimal customer service

to their guests (Frazier, 2010:10). Similarly, the benefits referred to above can also apply in other industries, where students are hosted. In addition to the benefits highlighted above, the benefits reviewed for industry, students and HEIs are outlined below.

3.6.1 Students

- WIL allows students to link theory with practice; it also enhances learning by integrating knowledge, skills and competencies and ensures that these are retained better.
- WIL creates an opportunity for students to better understand their career choice and realistically evaluate this their compatibility with potential work environments.
- WIL assists the student in developing a professional identity and introduces them to work values and ethics.
- WIL develops students to gain an understanding and knowledge of the workplace etiquette, and an awareness of the corporate culture, and it allows them to improve their interpersonal skills, as well as communication, teamwork and leadership skills. In addition, through WIL, students demonstrate growth in maturity, self-awareness and confidence.
- WIL enhances employability, since students are able to develop a work experience record and networks for future employers (Blom, 2014:3).

3.6.2 HEIs

- WIL is a vehicle that can strongly influence the curriculum and the pedagogy of teaching and learning, thus improving the validity and relevance of learning programmes.
- WIL enables strong and close links between HEIs and industry with regards collaborative research, and it provides for industry to influence the curriculum.
- WIL contributes to building mutual beneficial partnerships that allow for an exchange of up-to-date information or industry work requirements between academic staff and industry mentors during the placement; this allows the curriculum to be updated in response to new industry requirements.
- WIL enhances HEIs reputations among industry, by being responsive to industry's needs and by producing graduates who are suitable for the labour market.
- WIL provides an opportunity for HEIs to understand the needs of industry, and, through feedback from the placement of graduates, to improve their employability (Blom, 2014:4).

There is a need for HEIs to gauge the real impact of the WIL implementation on the employability of students. Therefore, the next chapter examines the employability models that can be used to measure the impact of WIL on employability.

3.6.3 Industry

- WIL provides an opportunity for industry to get new ideas from students, since students are expected to put their theoretical knowledge in practice.
- WIL provides an opportunity for employers to have access to a pool of work-ready candidates since the students are prepared for the workplace by WIL. In addition, it allows employers to assess students as potential employees during WIL. The employer can then recruit from the pool of talent, thus saving on training and recruitment costs (Namibia Strategic Framework for Cooperative Education, 2013:4).
- WIL affords an opportunity for employers to influence the curriculum in order for HEIs to incorporate new knowledge and skills that are relevant to industry processes, methods and technologies, so that such become part of the curriculum (Blom, 2014:4).
- WIL is important in improving the skills base of the country to the benefit of education, training and commerce, and industry.
- WIL creates an opportunity for industry and higher education to collaborate in conducting research that is relevant and useful for to both industry and HEIs (Blom, 2014:4).

3.7 Challenges for Work Integrated Learning for stakeholders

The preceding section outlined the importance of partnerships as the link for successfully implementing WIL. However, there are potential challenges in building the WIL partnership that surface due to different expectations from WIL stakeholders although benefits of students are evident (Pilgrim, 2012:2). It is deemed important to discuss the problems that are experienced in WIL partnership below.

It is important to understand what the expectations of both interns and supervisors are, as this is a key element in the success of internships (Beggs *et al.,* 2008:32). However, such understanding does not necessarily resolve issues or challenges that might hinder

the success of embedding WIL in the curriculum. McKinnon (2010:17) identified some of the challenges in his pilot study report, focusing on the benefits and challenges of incorporating WIL in the curriculum, of which some are highlighted in the background of the context of this study set out below:

- Work-related learning tasks were experienced as substantially more demanding than class tasks.
- High expectations and demands by employers were common in the workplace.
- High levels of stress and anxiety were experienced due to difficulties in coping with the unexpectedly high workloads.
- Students felt that they lacked readiness to tackle the real workplace tasks.
- Academics experienced a lack of consistency between defining academic standards and expectations related to producing well-rounded graduates.
- Employers emphasised the importance of having background information relating the strengths and skills of students before arriving in their companies to be able to match them to the appropriate tasks.

In addition, Bukaliya (2012:123) stated that the periods spent on WIL tended to be too short and that this could affect the individual's learning. It could in fact dilute the objective and effectiveness of WIL. However, despite the challenges associated with WIL, as raised above, there are certain benefits that can be derived, and they are discussed below.

3.8 Conclusion

WIL is a useful tool that is embedded in the higher education curriculum to enable students to put theory into practice through reflective and experiential pedagogies that can enhance their employability. However, as has been discussed in this chapter, there is no single approach to WIL; it can be applied in different forms, all of which require further interventions to support their effective implementation. Among others, they include student mentorships and strong partnerships between higher education and industry. However, the application of WIL is not always smooth or unproblematic; it has its own challenges as well as benefits, and stakeholders in WIL need to be aware of all of these.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter describes how the research was carried out, starting with defining and outlining the research design and philosophy. Thereafter, positivism, phenomenology, research strategies were discussed focusing on the definition, the situations in which they are applicable, motivating and recommending the appropriate one for the current study. Moreover the target population, sampling strategies and their techniques were described and explained indicating the strategy and technique used in the study and the purpose thereof. In addition, the instrument (the PCRI) utilised to collect the data was described in detail, including its dimensions, as well as how it was administered and how the results were interpreted, and what was its rationale and purpose substantiated. The checklist created in order to distinguish between the WIL-placed and unplaced students was introduced. In addition, the administration of the questionnaire was explained in line with the sampling strategy and the data analysis focusing on the collection and statistical methods (that is descriptive statistics, inferential statistics and the analysis of variance) to analyse the data that were presented. Furthermore, the validity and reliability tests conducted were explained in terms of their relevance to the PCRs instrument and their scores were compared and ascertain whether the study meets the requirement. Moreover, the limitation pertaining to data collection, time constraints and financial implication were discussed. Lastly the delimitation of the study was explained focusing on the ethical considerations, voluntary participation and anonymity as consent needed to be acquired from the respondents' to participate in the study.

4.2 Research Design

According to Akhtar (2016:68), a research design is the plan that outlines the research work process. Research design is the "plan and the procedures for research that span the decisions from broad assumptions to detailed methods of data collection and analysis" Creswell (2009:22). The type of research design selected to conduct a research depends on the aim of the research area as each design serve a specific objective Boru, (2018:2). Different types of research design exist such as; non-experimental designs and quasi - experimental and they can be utilised given the objective of the study to explore the appropriate research designs (Blumberg, Cooper & Schindler, 2005) cited in Boru,(2018:2). As explained by Marczyk *et al*., (2005:123),

the classification of the research design is based on the experimental control and applicability to be utilised in the situation. According to Creswell (2014 41), the experimental design provides an opportunity for treatment to one group and suppress the other to try and determine the impact on a specific treatment therefore it is applicable in the study that requires true experiments with the random assignment of participants. Whereas, non-experimental design uses statistics to describe and measure the correlation or relationship between two or more variables or sets of scores without performing an experiment (Creswell, 2014:42). On the other hand, the quasi-experimental design, lacks two elements that characterize the true experiments, namely, randomization and full control of a group, but then retain some attributes of the experimental design that is partial control to evaluate the effect of the independent variable Singh (2007:68).

Trochim (2001) cited in Marczyk, DeMatteo & Festinger (2005:123), detailed useful questions and answers that o determine the type of research design applicable in a situation. The questions and answers are as follows; “does the design involve random assignment to different conditions?”; “If random assignment is used, it is considered a randomized, or true, experimental design”; “If random assignment is not used, then a second question must be asked”; “Does the design use either multiple groups or multiple waves of measurement?”. “If the answer is yes, the design is considered quasi-experimental”. “If the answer is no, the design would be considered non-experimental”. The experimental designs and the non-experimental design would not be applicable the current study since the aim of the current study is to determine the effect of WIL on the employability of undergraduate which may require non-randomisation of participants. Hence, the quasi-experimental design was considered appropriate in case of the current study, where the circumstance require partial control of the experiment. Moreover, it was decided to utilise the quasi-experimental due to the practical and ethical reasons that are appropriate for the study Singh (2007:407). Nevertheless, the quasi-experimental quantitative research design does have a limitation of not allowing the researcher to have full control over the participants in the experiment (Levy & Ellis, 2011:155).

As explained in the previous section, the main objective of the study is to determine the impact of WIL on employability of the placed and unplaced graduates, through the presence PCRs representing employability. In order to achieve the research objective a survey was conducted that draws statistical data, quantitative results and further seeks to provide explanations on the impact of WIL on employability of graduates with

the established literature. Therefore, the relevant research design obviously is a quasi-experimental type that responds to both the fundamental research questions and the hypotheses. The section below provide an explanation and rationale for selecting a quasi-experimental research design from the philosophical view stance.

4.3 Research philosophy

Philosophy in research involves worldview assumptions that describes the methods and procedures of the study that consist of cluster of beliefs that dictates approach into practice Creswell (2014:34) & Boru (2018:4). In addition, it is referred to the general philosophical orientation of the world view that the researcher have to conduct the study Creswell (2014:35). According to Altinay & Paraskevas (2008:69), two key research philosophies (positivism and phenomenology) exist and they determine the research methods viewpoints uniquely. The positivism and phenomenology fall under the epistemology assumption, explained by Walliman (2011:16), as a theory of knowledge and understanding of what is being studied, "how we know things and what we can regard as acceptable knowledge in a discipline" and the validation thereof. Furthermore, these philosophies support the contrast between quantitative and qualitative research strategies in terms of the methods of data collection, the procedures adopted for data handling and analysis, and the interpretation of the findings (Kumar, 2011:35). Each philosophy is explained in the section below.

4.3.1 Positivism

Positivism is the paradigm that assumes that human behaviour is determined by external stimuli, and that it is possible to use the principles to observe and measure social event (Singh, 2007:407). Moreover, it is known to be "objective, utilises hard data from surveys in interpreting and experiments" (Altinay & Paraskevas, 2008:69). Positivist accepts that the world around us is real and knowledge is resultant of scientific method, experience gained through experiments and analysis (Walliman, 2011:21). In light of the epistemological stance the real position of positivism implore that, causes and effects of events could be uncovered to form knowledge (Walliman, 2011:175). Positivism focus on facts and formulated hypotheses to test against empirical evidence, hypotheses are formulated based on literature reviewed on how something might influence a behavior and the explanation thereof supported by the

experiment evidence that is; data collected as it depend on the objectivity rather than the researchers belief and interest (Altinay & Paraskevas (2008:71). The positivism research paradigm would be applicable in this study, based on its characteristics and considering that it's supported by an experiment to collect data. Thus, it is appropriate to aid in attaining the study objective through the quasi-experimental research design with hypotheses and research questions formulated for the experimental survey conducted.

4.3.2 Phenomenology

Phenomenology is a research methodology that is rooted in the philosophy that focuses on the individual lived experiences (Singh, 2007:406). Contrasting positivism, phenomenology focus on the individual's experiences in attempt to understand social reality grounded in their experience (Altinay & Paraskevas, 2008:70). Furthermore, phenomenology "provides the subjective implication with a different logic of the research procedure" (Bryman, 2004) cited in (Memon, Syed & Qureshi, 2017:37). In terms of theoretical perspectives broadly phenomenology can contribute to the discussion on empirical research in human sciences not only on the procedural that is; techniques of data collection and analysis based on theoretical perspectives (Mortari & Tarozzi 2010:11). Furthermore, it is "mainly theoretical, deepening the theory behind the method or the understanding of the mode of inquiry" (Manen, 1990:28) cited in (Mortari &Tarozzi, 2010:11).The phenomenology stance explained above in terms of the current study would assume that there could be some realities which exist in the world view and literature regarding the effect of WIL on the employability of undergraduates.

Positivist strives to create knowledge by examining cause and effect relationships between variables through experiments and data collection Boru, (2018:7). Therefore it is relevant in the current study since, data was collected, an experiment was conducted and data was collection to provide an explanation on the effect of WIL on the employability of graduates and provide recommendation based on the empirical evidence and literature.

4.4 Research strategy

The research strategies are also referred to approaches as explained by Creswell, (2014:34) "as the plans and the procedures for research that direct the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation". There

are two main types of research methodologies, that is; qualitative and quantitative approaches which serve the purpose of the research in different manner (Lee, 2006:87). Research strategies are supported by specific methods in conducting the study such as; collecting data quantitatively utilising instruments versus collecting qualitative data through observing a situation, experiments utilised in quantitative whilst case studies in qualitative (Creswell, 2009:22). Furthermore (Kumar, 2011:36), explained that the two research strategies differ in their foundation philosophy, approaches, models and processes. In addition, commonly known distinction is that "quantitative approach is objective and relies heavily on statistics and figures whereas the qualitative approach is subjective and utilises language and description" (Lee, 2009:88). Since, this study is using a non-experiment design and collecting pre and post statistics to address the research questions thus, the quantitative approach is regarded appropriate to implemented in attaining the study objective. The quantitative and qualitative strategies are respectively explained below in terms of their difference and the appropriateness for the study.

4.4.1 Quantitative

Quantitative research provides a means for testing impartial theories by investigating the relationship between variables, measured utilising instruments, so that numerical data can be analyzed using statistical techniques (Creswell, 2009:23). In addition, quantitative research analyses statistics seek to obtain findings of the study that can be used to investigate possible links between variables (Marczyk *et al*., 2005:21). Moreover, Anderson (2009:141) highlights the importance of using a quantitative research approach, by arguing that the quantitative data analysis is helpful in identifying the degree to which factors occur within organisations. The strength associated with quantitative research is that it examines the cause and effect between variables and generalise the sample findings to the entire population (Addo & Ebbo, 2014:144). Finally, Anderson (2009:134) explains that quantitative data variables can be counted, measured, described and compared with other variables. The researcher's explanation above supports the purpose of the study, which is to determine the effect of WIL on the employability of undergraduates, as explained by the PCRs through a qualitative instrument. The quantitative research design is structured, rigid, fixed and set to use to ensure the correctness in measurement and classification (Kumar, 2011:105). In addition, it is suitable to test pre and post and validate constructed theories about how and why an event occur through testing hypotheses that are constructed prior to data collected. The quantitative approach is deemed useful to answer the main research

questions and sub questions as well as to confirm or disapprove the hypotheses as outlined in Chapter 1 of the study.

4.4.2 Qualitative

Qualitative strategy is a means for exploring an event and understanding the individuals or groups human experience or problem through a process which includes; explaining relationships, using flexible instruments and semi-structured methods (in-depth interviews, focus groups, and collection of textual data (Creswell, 2009:22). In addition, Holland & Rees (2010) cited in Addo & Ebbo, 2014:139 described qualitative study as research strategy that pursue to discover people experience collecting through interviews and observations without formal measurement. However, statistical analysis is applied and appreciated in a written report for a particular context and results are not quantify, nevertheless it can be used as a source of formulating hypotheses tested in the quantitative research (Creswell, 2009:22 & Marczyk *et al*,. 2005:21). Similarly Walliman (2011:72), notes that "qualitative data cannot be accurately measured and counted, and are generally expressed in words rather than numbers that cannot be pinned down and measured in any exact way". Due to the unstructured qualitative research design it is therefore deemed not suitable for the current study as it demands a structured design. It is against the abovementioned background that the quantitative research method was adopted for this study.

4.5 Target population

Singh (2007:88) defines a population as a “group of individuals, objects or items from among which a sample is to be drawn for measurement purposes.” Correspondingly, "the population in research does not certainly mean a number of people, it describes the total quantity of things (or cases) of the type which are the subject of the study consist of certain types of objects, organizations, people or even events" (Walliman, 2011:94).

The target population in this study is made up of third year undergraduates of the School of Management, who are thus expected to enter the employment market soon; the sample included both those who are placed and unplaced for WIL in the first semester of 2015. Although researchers often wish they could study the entire population, this is often impossible. The best option is to choose a sample and to select a sample size that best represents the population.

The undergraduates were thus surveyed at the beginning of the semester during their Pre-WIL readiness preparation class, which caters for all students who are either WIL-placed or unplaced. Students who have secured placements will undergo WIL. The pre-test survey was carried out both on those students who had secured placement and those who had not. After four months, a post-test survey was conducted on the same groups, to determine the variations in their respective groups' employability, by using the PCRI instrument to evaluate the two groups. The sampling technique used in the study is discussed next.

4.6 Sampling strategy

Singh (2007:89) defined sampling as a "process of selection of sampling units from the population to estimate the population parameters in such a way that the sample truly represents the population." This means during the sampling process, every member of the population has a chance to be selected as part of the total population. Sampling strategy is also known as "a definite plan determined before any data are actually collected for obtaining a sample from a given population" (Kothari, 2004:55). In other words sampling strategy is a plan set forth to ensure that the sample used in the study represents the population of a sample drawn. Sampling assist a researcher to draw a conclusion of a population using inferential statistics by relying on a sample of the population (Singh, 2007:89). In addition, the purposes of executing sampling in research is to control bias in choosing the research sample in order to obtain accurate information at a given situation (Kumar, 2011:42). Moreover, in sampling selection bias can exist which is described as the" unwanted distortion of the results of a survey due to parts of the population being more strongly represented than others"(Walliman, 2011:95). Hence selection bias in any research should be avoided because it can cause the sample not to represent the ideal population. The advantage of sampling is that it makes the study more convenient to manage in terms of time efficiency, cost effective and research findings are predicted to be more accurate (Altinay & Paraskevas, 2008:89). According to Walliman (2011:95), two main sampling methods exist and that is "probability sampling techniques that provide the most reliable representation of the whole population, while non-probability techniques dependent on the judgement of the researcher or on accident and cannot be used to make generalizations about the whole population"

4.6.1 Probability sampling

Probability sampling is explained by Creswell (2014:295), as "a procedure in research for selecting participants to ascertain that each individual has an equal probability of being selected from the population, ensuring that the sample will be representative of the population"). In other words, probability sampling ensure that every item in the population has an equal chance of being included in a sample. According to (Brown, 1947) cited in Taherdoost (2016:20), "probability or random sampling has the greatest freedom from bias, however it may be costly sample in terms of time and energy for a given level of sampling error". According to Altinay & Paraskevas (2008:91-94), there are different probability sampling techniques, such as “simple random sampling, systematic sampling, stratified sampling and cluster sampling" these are described below:

- Simple random sampling: It requires that all elements of the population under the study to have the same chance to be selected;
- Systematic sampling: Involves selection of each sampling fraction or intervals to select the member of the target population. Therefore, it does not only depend on random selection and its utilised due to the process simplicity and no specific frame is required;
- Stratified sampling: This includes dividing the population into homogeneous mutually exclusive groups or strata and independent samples are selected from each strata.
- Cluster sampling: It required splits of the population into mutually exclusive subgroup and a sample randomly select from the subset. The process undertaken in this method is similar to the stratified sampling approach as the population is divide into cluster.

4.6.2 Non-probability sampling

In contrast non- probability sampling is defined "as sampling where it is not possible to specify the probability that any individual or unit, which the survey is based will be included in the sample" (Smith, 1983) cited in (Altinay & Paraskevas, 2008:95).The advantage of this method is that it can be useful for certain studies that require to implement surveys in a situation where it is difficult for the researcher to access the entire population, although it lacks in generalization (Walliman, 2011:96). The non-probability provides an opportunity to select a sample purposely of the population for the survey to be conducted, for example in the current study a sample was required for the purpose of investigating the impact of WIL on the employability of undergraduates. Due to the limitations the study could not involve the entire population of the

undergraduates at the PoN thus the non-probability sampling is useful in this case. In addition, it is recommended for any other research study that is not interested in the proportionate of the entire population to be represented in the sample. According to Altinay & Paraskevas (2008:95) there are five types of probability sampling that are discussed below;

- Convenience sampling: This is an accidental sample selected for convenience and accessibility. In this approach only a convenience sample is possible because the researcher need to use naturally formed groups such as a classroom, an organization, a family unit or volunteers. The selection process is based on the availability and accidental for the participants to be included in the sample as it can contribute to the event.
- Judgmental sampling: The method is known as purposive sampling where participants are handpicked from accessible populations for convenience sampling. This type of technique is appropriate incases were the population to be studied is difficult to locate.
- Quota sampling: In this technique strata's are used to select samples as is done in the stratified random sampling. However judgement is used and that what make it non-probability.
- Snowball sampling: The method involves using referrals from initial participants to identify study participants. It is utilised in cases where there are constraints to locate participants for a study.
- Self-selection sampling: In this approach the individual's voluntary participate in the study. The researcher inform the target population through advertising, letters, emails et cetera. It is important that there are clear criteria's in terms of inclusion and exclusion in order to identify the relevant target population for the study.

Subsequent to highlighting sampling methods above, the researcher considered the convenience non-probability sampling approach as the most suitable for study. Since it was the most convenient to reach the target population which was a group of undergraduate student's eligible for WIL in the School of management divided into two groups Pre-WIL placed and unplaced and Post-WIL placed and unplaced. The participants voluntarily participate in the study and the researcher made use of the classroom for the questionnaires to reach study sample. However, there was lack of controlling the entire experiment in utilising this sampling method. This is explained by the nature of the study design which is a quasi-experimental that require non-random sampling method appropriate for the research (Creswell, 2009:146). Furthermore it enabled the researcher to choose the correct sample. However, it is not possible to

specify that the probability that the individual to be surveyed would be included in the sample both during the pre- and the post-test.

4.6.3 Sample size

In the current study, both the experimental and the control group sample were drawn from the group of students in the School of Management. Both the placed and the unplaced respondents were determined by means of a WIL checklist. The survey was conducted twice on the pre-post placed and pre-post unplaced sample. The total sample size was 140 respondents in both the placed and unplaced categories as represented in Table 4.1 below.

Table 4.1: Sample size representation

Sample Distribution	Respondents description	Total
Pre-study	Unplaced	89
	Placed	75
Total		164
Post-study	Unplaced	80
	Placed	60
Total		140

The participants completed the 64-item questionnaire during the pre-test and again during the post-test, among both WIL-placed and unplaced groups. The study targeted the 2015 undergraduate cohort in their final year of study. A sample of 164 respondents of the target population participated in the research before the WIL placement, while 140 respondents participated after the WIL placement. This is interpreted as implying that, before the WIL placement, the WIL-placed respondents regarded themselves as aware of their career purpose and directions and able to venture further into their career of choice. The target population in the School of Management was 400 undergraduates in total. The pre-WIL placed group constituted 45% (*N*=75) of the pre-test sample population of 164, whilst the pre-WIL unplaced respondents represented 55% (*N*=89). In addition, the post-WIL placed students made up 43% *(N=60),* while the post-WIL unplaced respondents represented 57% of (N=80); in addition, there were non-response items in each of the categories. In both the pre-WIL unplaced and placed groups, too, there were non-response items, which are summarised in Figure 4.2 below. In the pre-WIL unplaced group, there were no responses to 40 items under

Career Preferences, 22 in the Career Values category, 27 of the Career Drivers, 36 of the Career Enablers and 82 of the Career Harmonisers categories. In contrast, in the pre-WIL placed group, there were no responses to 6 items in the Preferences, 4 in the Values, 2 in the Drivers, 1 in the Enablers and 84 in the Harmonisers categories. Although these questions were not answered, the sample size is not affected by the questions not answered, as the sample remain the same as depicted in Table 4.1 above.

Table 4.2: None-respondent items

Name of dimension and number of items in each subscale	Pre-unplaced number of questions completed (Item response)	Pre-unplaced number of questions not completed (Item none response)	Pre-placed No of questions completed (Item response)	Pre-Placed Number of questions not completed (Item none response)	Post-Unplaced Number of questions completed (Item response)	Post-Unplaced Number of questions not completed (Item none response)	Post placed Number of questions completed (Item response)	Post placed Number of questions not completed (Item none response)
Career preferences (17)	1473	40	1269	6	1360	0	1020	0
Career values (8)	690	22	596	4	640	0	480	0
Career drivers (10)	863	27	748	2	800	0	600	0
Career enablers (8)	676	36	599	1	640	0	480	0
Career harmonisers (21)	1787	82	1491	84	1680	0	1260	0

Apart from the sample size, other descriptive data consisting of ethnic group, gender, marital status, and level of education were also analysed and interpreted. The pre-WIL sample consisted of 55% (*N*=89) unplaced and 45% (N=75) placed undergraduates, totaling 164 respondents. During the post-WIL test, in contrast, 57% (*N*=80) unplaced respondents and 43% (*N*=60) placed students totaling 140 undergraduates. The majority of the respondents were African (Black), who constituted 89% during the pre-WIL tests and 91% during the post-WIL tests. With regard to gender, the majority were female respondents, making up 71.5% (*N*=118) of the respondents during the pre-WIL test and 70% (*N*=98) during the post-WIL test. This indicates that the School of Management is dominated by female students. The age group of 26 years and younger represents the largest group, making up 78.1% (*N*=129) respondents during the pre-WIL test and 77.1% (*N*=108) respondents during the post-WIL test. The bulk of the respondents are single, making up 93% (*N*=154) during the pre-WIL test and 95% (*N*=133) during the post-WIL test. The discussion of the results based on the literature will be presented in the next sections as per the research objectives and the hypotheses outlined in Chapter One. The majority of the respondents who took part in the study were single (that is they had never been married); they represented 95.0% (*N*=133) of the total sample size during the post-WIL test, as indicated in Table 5.6. Only 2.1% (*N*=3) of the students indicated that they were married during the post-WIL test. The analyses are interpreted, discussed and depicted in detail in Chapter Five. In the section below, the PCRI instrument is discussed in terms of its relevance and reliability, at the only measure utilised in the study.

4.7 Research Instrument

The Psychological Career Resources Inventory (PCRI) instrument adopted from Coetzee (2007) attached in Appendix C of the study. The measure was developed to identify individuals' career preferences and capabilities that would determine their career goals and general employability (Coetzee, 2008). The PCRs in the inventory relate to the idea of individuals knowing their capabilities and taking charge of their career development by pursuing relevant educational goals and adjusting to the volatile skills requirements in the new world of work (Coetzee, 2014:5).

The psychological career resources dimensions represented in Table 4.3 below consist of career preferences, career values, career enablers, career drivers and career harmonisers. These career-related resources enable individuals to adapt to changing

career requirements and to adjust in order to attain success in a particular context (Coetzee, 2008; Ferreira & Coetzee, 2013:370). Individuals' career preferences and values will shape their views of their career paths and decisions. Career drivers relate to people's sense of career purpose, career directedness and career venturing attitudes. The strength and assertiveness of these drivers tend to energise individuals, and motivate them to try new or other career and employment possibilities, based on their own perspectives about what they aspire to become or what possible working roles they could adopt. Career enablers include people's transferable skills, such as hands-on or creative skills, as well as the personal and interpersonal management skills that help them to succeed in their careers. Career harmonisers comprise people's self-esteem, behavioural adaptability, emotional literacy and social connectivity. Flexibility and resilience are important to create a sense of balance and stability with regard to the career drivers or aspirations, effectively preventing people from losing their sense of balance and direction when changing careers (Coetzee, 2008; Ferreira & Coetzee, 2013:137).

The measuring instrument used in this research consists of Coetzee's Psychological Career Resources Inventory (PCRI), in order to measure WIL, the dependent variable. In the study, the independent variable is the PCRI, which was used as an operationalisation of employability. An independent variable is used to determine what effect it has on the dependent variable, whilst the dependent variable is the response variable that reflects the effects of the independent variable. In this study, the PCRI is the independent variable, and it determined the effect of WIL on employability. On the PCRI, the WIL checklist was attached to identify the WIL-placed and unplaced students. Since the PCRI was used to meet the objectives of the study, it is discussed below in terms of its context, dimensions, rationale and purpose.

Furthermore, the presence of the PCRs, the relationships, between the two variables, that is WIL and PCRs (employability), and the levels of significant differences between the WIL-placed and unplaced respondents were thus explored in this study. This was done through an experimental research design, by testing the independent variable of employability through the PCRs against the dependent variable that is WIL exposed (placed) and non-WIL exposed (unplaced) undergraduates, to determine their employability. The variables are illustrated in Figure 4.1 below.

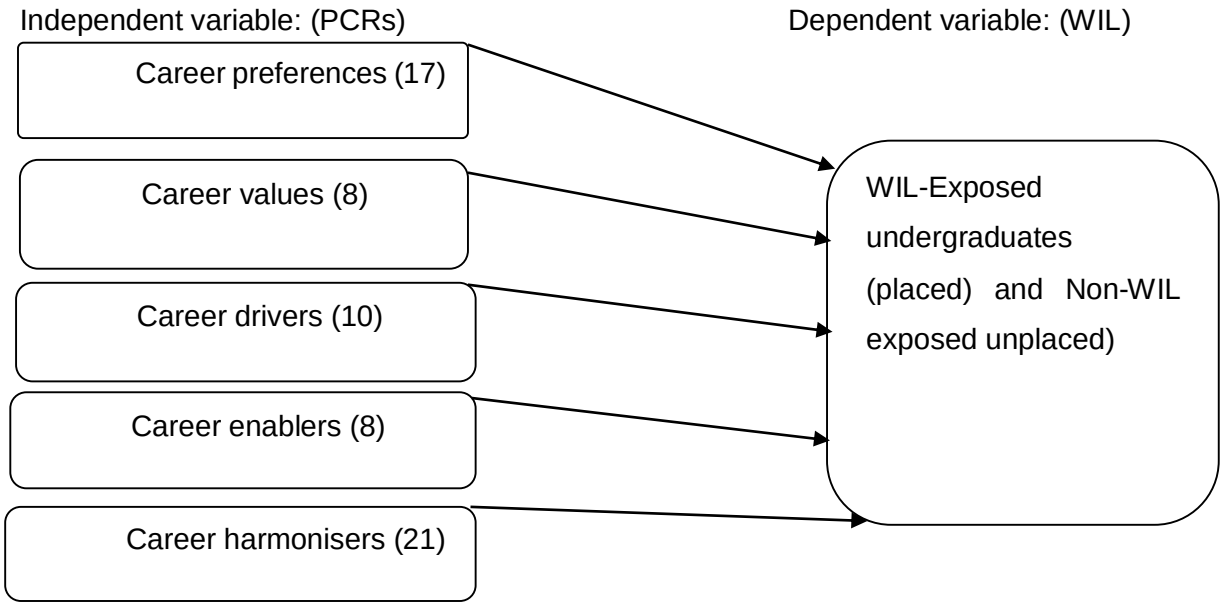

Figure 4.1: Framework of the dependent and independent variables

The number that appears next to each independent variable refers to the number of questions that were asked in relation to that independent variable. The experimental research design utilised in this study involved three steps: measuring the dependent variable before the intervention, exposing the respondents/participants to the independent variable, and lastly, measuring the dependent variable after the intervention. The quasi-experimental design used in this study was explained in section 4.7.

4.7.1 Dimensions of the instrument

The PCRI was developed in order to test the proactive career behaviour of the individual in relation to being in a state of equilibrium. Equilibrium is an indication of the awareness of the individual to develop the sense of self that creates a balance between the inner self and career expectations (Coetzee, 2008:10). That can lead to the individual's self-directed actions and their independent career behaviour, which leads to general employability (Coetzee, 2008:4). Furthermore, Coetzee and Esterhuizen (2010:3) explained that the PCRs are linked to life experiences, career satisfaction, general employability and the ability to deal with challenges. Employability is acknowledged as the self-perceived level of contentment that individuals have in terms of their views about the attributes, skills, knowledge, experience and work-related know-how they possess to create or attract employment comfortably (Coetzee &

Schreuder, 2011:82). The instrument's dimensions are defined and operationalised in Table 4.3 below.

Table 4.3: Psychological Career Inventory (PCRI)

Name of dimension and number of items in each subscale	Meaning of what is measured
Career preferences (17)	Cognitive structure underlying the meaning of career and guiding people's career moves.
Career values (8)	Things that motivate an individual for to follow a particular career preference
Career drivers (10)	Attitudes that energise people and motivate them to experiment with career and employment possibilities
Career enablers (8)	Transferable skills that help individuals to succeed in their careers
Career harmonisers (21)	Psychological attributes that act as promoters of flexibility and resiliency to control career drivers

Source: Symington (2012:80)

The attributes of the various dimensions explained in the table above represent employability skills that can be applied by people when they aspire to following their chosen careers. The focus of this study is to evaluate whether undergraduates who have undergone the WIL intervention and those who have not have improved their general employability, as explained by the PCRI.

4.7.2 Rationale and Purpose

The instrument is deemed useful for answering the research questions in this study, since it is a self-evaluation type of questionnaire, which is geared to identifying individual career and employability attributes. The instrument's various dimensions were used in previous studies, conducted by Coetzee and Bergh (2009), Coetzee and Ferreira and Coetzee (2010), Bezuidenhout (2010), Schreuder (2011) and Symington (2012), to measure the general employability of graduates. It allows the researcher empirically to test the psychometrical career resources that could be developed through WIL interventions; it is also possible that the undergraduates already have such resources, even without participating in WIL.

4.7.3 Data Collection

The data collection process followed the quasi-experimental research design method, which was explained in the research design section of this chapter (see Section 4.2). Data was collected in two rounds from the two groups of undergraduates in the School of Management at the PoN. The lecturers granted permission to the researcher to utilised 20 minutes of the class time to administer the questionnaire on two separate occasions. Before doing so, the questionnaire's content was explained, and respondents were informed that their participation in the study was voluntary and that the information they provided would be kept confidential. This was done prior to both rounds.

The questionnaire was physically handed to the students by the researcher with the help of the lecturer. The first round of data collection occurred in March 2015, during the first semester, and specifically during the work readiness preparation class that was attended by WIL-placed and unplaced undergraduates (the class included both WIL-placed and unplaced undergraduates). The second round of data collection occurred in August 2015, during the second semester, in a normal class attended by the same cohort. To differentiate between the two groups, data was collected from both those students who had undergone WIL placement (the experimental group) and those students who had not found WIL placements (the control group). The WIL checklist was utilised to differentiate between experimental and control group data. Moreover, the respondents in both rounds were identified by aligning the names appearing on the class register during the 1st and 2nd semester with the pre- and post-WIL placed and unplaced groups.

The data collected was analysed by means of quantitative methods. According to Anderson (2009:204), quantitative data plays an important part in answering the research questions and providing evidence. The researcher made use of the SPSS to analyse data, and therefore the methods used to analyse data are explained in the following section.

4.8 Pilot test

No pilot testing was undertaken as Coetzee (2017) PCRI intact instrument was adopted with permission and utilised for the study without modification. The questionnaire is deemed appropriate as its reliability and validity regenerate during the data analysis of the current study was in line with the requirements (Creswell, 2009:141). Moreover,

various studies that have utilised the instrument to measure employability confirmed that it is psychometrically sound to measure the employability of graduates through PCRI's in the African context. Therefore, the researcher did not conduct a pilot testing for the instrument as the current study was conducted in the Southern African context.

4.9 Administration of questionnaire

The questionnaire administration was conducted during the Human Resources Management 3rd year class targeting the WIL eligible student's population. That made it possible for the researcher to conveniently access the sample of both WIL placed and unplaced undergraduates who attended the class during the pre- and post- data collection time. This was done for the convenience of the sample which was non-random as explained in the sampling strategy section. The instrument was clearly explained to the respondents in terms of what they were expected to do during the data collection process. In addition, clear guidelines for completion were provided during the class, and these instructions were also presented in the questionnaire to ensure that the respondents clearly understood what was expected of them. The respondents were requested to read and complete the questionnaires and to rate each psychological career resources question that best suits them on the six-point Likert scale according to their employability experiences as represented by the PCRs by putting a cross on the appropriate scale. In order to distinguish the WIL-placed control group from the unplaced experimental during the pre and post data collection A WIL checklist was attached to the PCRI instrument to assist the researcher. The components of the instrument and the WIL checklist are explained below.

4.9.1 Interpretation of the instrument

The instrument consists of 64 self-administered questions, using subscales, relating to the five dimensions of the PCRs. The subscale items are rated on a Likert six-point scale as per the respondents' own experience. The scale consists of the following ratings:

1 = Never
2 = Rarely
3 = Sometimes
4 = Often
5 = Almost always
6 = Always

4.9.2 WIL Checklist

Work-Integrated Learning (WIL) is an intervention that combines professional work experience with academic studies to enable students to integrate theoretical, conceptual knowledge with application in the workplace through direct or supported educational activities (Bates, 2010:5). According to Jackson (2013a:99), WIL is an intervention that, "point to enhancing employability by enriches graduate skill outcomes, such as teamwork, communication, self-management and problem solving, employment prospects and student understanding of the world of work." In addition, WIL is known for enabling students to develop generic and professional skills (Patrick *et al.,* 2009:13). WIL is thus often incorporated in business undergraduate programmes to prepare undergraduates for the world of work (Jackson, Sibson & Riebe, 2013:2).

Undergraduates at the PoN's School of Management are responsible for securing their own placement opportunities; they are assisted by the Cooperative Education Unit (CEU) as well as their academic WIL coordinators in their respective departments. WIL is an independent variable in this study that is confirmed by using the WIL checklist containing certain elements, such as biographical information, degree type, year of study, WIL placement status, placement organisation and type of organisation in which the student has been placed. Therefore, it was deemed appropriate in this study to use the WIL checklist to distinguish the WIL-placed control group from the experimental group (that is the unplaced students) in this study. WIL elements in the checklist are illustrated in this study as per Table 4.4 below.

Table 4.4: Elements of the WIL Checklist

Elements	**Meaning**
Biographical information	Name, age and gender
Undergraduate degree programme	Field of study e.g. Bachelor of Human Resources Management
Year of study	Academic year of study e.g. first year, second year, third year
WIL placement status	Placed and unplaced in industry with regard to WIL
Placement organisation	Name of the host organisation where student has been placed
Type of organisation	Private, Public, NGO, other
Period spent on WIL intervention	Time spent on WIL intervention

In the next section, the data collection process used to measure the employability of undergraduates in the study is explained.

4.10 Data analysis

The preparation of quantitative data in terms of organising and coding is considered vital for ensuring the accuracy of data before analysis (Altinay & Paraskevas, 2008:194). In addition, data cleaning, description and validation was done before analysis. The questionnaire in this research consisted of the Likert scale that was captured in the category of nominal scale data, whilst biographical information such as age, gender and ethnic group were also classified as nominal. The data was analysed using the SPSS. Statistical tests such as Cronbach's alpha and factor analysis were conducted to measure the reliability and validity of the data. The classification of data and analysis was reported in increasing complexity, starting with descriptive, which was followed by inferential statistics, which includes means and standard deviations and T-statistics Analysis. As it is necessary to explain the methods used to analyse the data, they are explained in the next section. However, before the data was analysed, statistical methods used were determined first, and these are explained below. The descriptive statistics, the reliability and validity of the research instrument, and inferential statistics of the study are explained as follows.

The data collection process followed the quasi-experimental research design method, which was explained in the research design section of this chapter (see Section 4.2). Data was collected in two rounds from the two groups of undergraduates in the School of Management at the PoN. The lecturers granted permission to the researcher to utilise 20 minutes of the class time to administer the questionnaire on two separate occasions. Before doing so, the questionnaire's content was explained, and respondents were informed that their participation in the study was voluntary and that the information they provided would be kept confidential. This was done prior to both rounds.

The questionnaire was physically handed to the students by the researcher with the help of the lecturer. The first round of data collection occurred in March 2015, during the first semester, and specifically during the work readiness preparation class that was attended by WIL-placed and unplaced undergraduates (the class included both WIL-placed and unplaced undergraduates). The second round of data collection occurred in August 2015, during the second semester, in a normal class attended by the same

cohort. To differentiate between the two groups, data was collected from both those students who had undergone WIL placement (the experimental group) and those students who had not found WIL placements (the control group). The WIL checklist was utilised to differentiate between experimental and control group data. Moreover, the respondents in both rounds were identified by aligning the names appearing on the class register during the 1st and 2nd semester with the pre- and post-WIL placed and unplaced groups.

The data collected was analysed by means of quantitative methods. According to Anderson (2009:204), quantitative data plays an important part in answering the research questions and providing evidence. The researcher made use of the SPSS to analyse data, and therefore the methods used to analyse data are explained in the following section.

4.10.1 Descriptive statistics

Descriptive statistics are normally used to measure the distributions known as mean, median and mode (Leech *at al.,* 2005:18). These tests are used to describe the data by determining the biographical composition of the sample. It is also useful in explaining the inferential statistics and any other analysis that was performed. In this study, frequency distribution analysis was performed to determine the biographical composition in terms of ethnicity, age categories, gender, marital status and level of education. The sample data was categorised into WIL-placed pre-post groups and unplaced pre-post groups. In order to determine the variations or differences in these groups, the mean, median and standard deviation frequency analyses were executed.

4.10.2 Reliability and Validity of research instruments

Cronbach's alpha tested the reliability of the PCRI instrument to be utilised in the study to measure the employability of undergraduates. These scores were then compared with those of Coetzee (2013) and those of the study. Moreover, the validity of the data was tested using the factor analysis test to determine that there was sufficient data. The results of this are depicted and explained in the next chapter. Inferential statistics are discussed in the next section.

4.10.3 Inferential statistics

Inferential statistics are used to determine differences among the groups from which the sample has been drawn (Leech *et al.,* 2005:46). To measure such differences between the two groups statistically, the t-statistics and Analysis of Variance ANOVA tests were utilised. The t-test is a hypothesis test used to compare the means of two populations. This test assists in determining whether the PCRs positively or negatively explained the effect of WIL on the employability of undergraduates by comparing the sample means. The results assist in answering the research questions with evidence to reject or accept the study hypothesis. The ANOVA test, in contrast, is utilised to measure and analyse the variations among and between the means of the WIL-placed and unplaced groups. This type of analysis was considered appropriate for the study, since it explains how the data can be interpreted and understood in terms of the differences among the four groups (namely pre-post WIL-placed and pre-post unplaced). Furthermore, it allows the researcher to generalise beyond the sample (Leech *et al.*, 2005:46). The inferential analysis aimed to answer the following research questions: Is there a difference in terms of the PCRs of undergraduates who were exposed to the WIL intervention and those who were not? What is the link between the PCRs of the WIL exposed undergraduates and the non-WIL exposed undergraduates? Does the PCRI explain the employability of WIL exposed undergraduates compared to non-WIL exposed undergraduates?

The above mentioned statistics tests do this by anticipating that differences between the four groups' PCRI scores will highlight important information that is needed to inform HEIs, industry and society whether students who undergo such type of placement demonstrate improved employability with regard to skills and elements required in the job market. These statistics are used to accept or reject hypotheses in research, and they are discussed below. This is used to assist in analysing complex data with a single dependent variable and multiple independent variables (Leech *et al.,* 2005:49). Therefore, it was regarded as a suitable approach to be utilised in the study, since it provided answers to the different research questions being asked, and assisted in showing how the data could be interpreted and understood.

4.11 Validity Test

According to Shajahan (2010:152), validity means that a research instrument accurately measures what it is supposed to measure. Validity also measure the probability that the researcher will obtain statistical significance after the data is analysed (Leedy & Omrod, 2010:28). Brink (2006:159, cited in Bezuidenhout, 2011:147), explained that validity is used to ascertain what the instrument intended to measure, given the context where it is applied. It also allows the researcher to determine whether the sub-dimensions within the instrument are retained. In addition, Coetzee (2014:12) ascertained that if all 64 items are retained in their subscales, validity of the factors is plausible. Furthermore, Creswell (2009:141), explained that validity provides an idea "whether one can draw meaningful and useful inferences from scores utilising the instruments" in addition three main forms of validity are highlighted below, however the construct validity will be discuss in detail.

- Content validity: do the items measure the content they were intended to measure?
- Predictive or concurrent validity: do scores predict a criterion measure? Do results correlate with other results?
- Construct validity: do items measure hypothetical constructs or concepts?

According Humbley & Zumbo, (1996) cited in Creswell (2009:141), construct validity explains, whether the scores serve a useful purpose and have positive consequences when it is applied practically in research. In construct validity, hypothesis are deduced from a theory that is relevant to the concept measured and it is divided into two sub-categories: convergent and discriminate validity" (Singh, 2005:77). Furthermore, convergent validity assess whether a measure of a concept really measures " the extent to which the concept measures the concept it was designed to measure through comparing it to measures of the same concept developed through other approaches to assess how well the items are together, whilst the latter differentiate individuals on certain behaviors"(Singh, 2005:77). In the case of this study the validity measures the extent to which the concept of employability is measured through PCRs instrument. Hence, construct validity is tested through the factor analysis a well-known method of examining construct validity, though there are different methods that can test construct validity. In the current study, factor analysis was utilised to test validity. The test scores are explained and compared to those of Coetzee (2008) study below.

4.11.1 Factor Analysis scores

The factor analysis provided a way of checking whether the same common factors in the research instrument that are reported in different research results could be extracted or preserved in the study. Furthermore, the validity of the PCRI in the current study was determined by Kaiser-Meyer-Olkin, as ranging between 0.79 and 0.92. This range confirms the appropriateness of the factors retained to be measured and sample adequacy (Coetzee, 2008:13). It is vital to determine the validity of the instrument in research.

4.12 Reliability Test

In contrast Creswell (2014:295), expressed that reliability evaluate "whether scores of items on an instrument are internally consistent, that is the item responses consistent across constructs, stable over time (test-retest correlations), and whether there was consistency in test administration and scoring". Reliability ratifies the quality of a research measurement method that should repeatedly provide the correct objective unbiased scores (Kumar, 2011:26). In addition, Singh (2005:77), explained that reliability indicates the subject of consistency of measures that is the capability of an instrument to measure the same object every time it is used highlighting the three reason for assessing reliability as follows; "stability - which entails asking whether a measure is stable over time so that a researchers can be confident that results relating to the measure for a sample of respondents will not fluctuate; internal reliability- seeks to assess whether the indicators that make up the scale or index are consistent and Inter-observer consistency - involvement of more than one observer in activities such as recording of observation or translation of data into categories".

In other words reliability is the ability to achieve consistent study results every time the instrument is utilised to measure. Furthermore, if a research instrument is consistent and stable, it is likely to predict accurate scores hence it is reliable (Kumar, 2014:173). The accurate scores would make it possible to draw meaningful conclusions from the data for the study (Leedy & Omrod, 2010:28). There are various reliability test methods in research, however in terms of current study the reliability of the instrument will thus be determined by means of Cronbach’s alpha coefficient. The Cronbach’s alpha indicates the internal consistency of scale items; it is useful when several Likert scale items are measured based on the mean or average correlation of items in the scale and it provides a measure of the reliability of the questionnaire (Leech, Barrett &

Morgan, 2005:63). The reliability scores of the instrument within the current study are compared with those of Coetzee (2008) and discussed in the next sections.

4.12.1 Cronbach Alpha scores

According to Anastasi (1976, cited in Coetzee, 2008:13), the coefficient alpha needs to fall in the range 0.80 to 0.90 for desirable reliability to be realised, whereas Leech *et al.,* (2005:67) indicated that alpha can be above 0.70, although it can also be acceptable at a range of 0.60 to 0.69. A very high alpha above 0.90 could mean that items in the scale have been repeated or that more items are needed in the scale to measure reliability. Bartholomew, Antonia & Marcia (2000, cited in Coetzee, 2008:13) argued that a Cronbach's alpha between 0.80 and 0.60 is acceptable. Furthermore, Bryman and Bell (2003) stated that "reliability refers to the consistency of a measure of a concept" (Bryman & Bell, 2003:163). In agreement with Bryman & Bell (2003), other researchers have argued that reliability is the consistency with which a measuring instrument provides dependable results when the item being measured has not changed (Leedy & Ormrod, 2010:29). Table 4.5 below indicates the Cronbach alpha coefficients, means and standard deviations for the PCRI in the study conducted by Coetzee (2008). Cronbach's alpha ranged between 0.71 and 0.88, and is thus deemed reliable and psychometrically sound for measuring employability (Coetzee, 2008:13).

Table 4.5: Descriptive statistics: Cronbach's alpha coefficients, means, and standard deviations

TABLE 1
Reliability statistics: PCRI scales (N = 2 997)

PCRI SCALE	NUMBER OF ITEMS	CRONBACH'S ALPHA	MEAN	SD
Career Preferences				
Stability/Expertise	6	0.73	21.13	2.911
Managerial	4	0.75	11.37	3.071
Variety/Creativity	3	0.70	9.52	2.141
Freedom/Autonomy	4	0.62	11.25	2.806
Scale overall	**17**	**0.84**	**53.28**	**8.221**
Career Values				
Growth/Development	5	0.74	17.91	2.324
Authority/Influence	3	0.61	8.52	2.139
Scale overall	**8**	**0.74**	**26.43**	**3.757**
Career Enablers				
Practical/creative skills	4	0.68	9.65	2.764
Self/other skills	4	0.63	13.61	2.100
Scale overall	**8**	**0.71**	**23.25**	**4.015**
Career Drivers				
Career Purpose	5	0.66	18.11	2.066
Career Directedness	3	0.63	9.01	2.028
Career Venturing	2	0.70	5.84	1.707
Scale overall	**10**	**0.78**	**32.96**	**4.597**
Career Harmonisers				
Self-esteem	7	0.77	23.08	3.605
Behavioural adaptability	6	0.73	19.33	3.233
Emotional literacy	5	0.70	15.28	3.008
Social connectivity	3	0.67	10.00	1.655
Scale overall	**21**	**0.88**	**67.69**	**9.208**

Source: Coetzee (2008:13)

The reliability and validity of the PCRs instrument was one of the motivations for utilising it in this study, as these were based on a South African sample. The validity and reliability scores of the instrument within the current study are compared with those of Coetzee (2008) in the next chapter.

4.13 Limitations of the study

The study was conducted in the Namibian context, focusing on third-year undergraduates at the School of Management at the PoN (now NUST); the findings

may be limited by the comparatively short three-month duration of the WIL course and the fact that employability was measured immediately thereafter. The other limitation is the fact that the sample was collected from the School of Management only, therefore, it does not represent the entire Polytechnic of Namibia undergraduates. Hence, the findings and conclusions will only be applicable to the School of Management. The results are relevant only to the specific sample and cannot be extrapolated to the entire student population. In order for the findings to be representative of all the students eligible for WIL, the study would need to have been conducted in all Schools that have a WIL course component in their programme, since the duration of WIL varies across the different programmes. Making the survey compulsory to all undergraduates might yield a more representative sample. However, it might be cumbersome, time-consuming and complex to collect data from a larger population. Lastly, the study followed a quasi-experimental research design that limit the researcher to have full control over the participants, therefore there was an attrition in the sample size during the pre- and post-test.

4.13.1 Data collection

The data collection process limitation, which yielded a low response rate. This may be attributed to the questionnaire being too long in addition a WIL checklist form attached to the questionnaire. The data was only collected from a single source (undergraduates) and did not take into consideration the views of other stakeholders in WIL such as industry, where the students had been placed; this can be a concern when generalising findings, according to Jackson (2013a:107). Moreover data could not be collected from the entire 3rd year undergraduates as it will be challenging to collect data from the entire target population. Due to the participation being voluntary the researcher did not have full control over the participants in the experiment (Levy and Ellis, 2011:155), some participants did not complete the second round of data collection, which slightly affected the final sample size due to the attrition.

4.13.2 Time Constraints

Limited time was allocated to collect data during class time since normal class activities still had to continue after data collection. The complexity of conducting an experimental study make it impossible to have sufficient time for the researcher to collect data from the entire 3rd year WIL eligible population at PoN.

4.13.3 Financial Constraints

Financial implication such as the limited budget of the researcher, made it impossible to cover the entire 3rd year WIL eligible undergraduates at the PoN. In addition, financial resources required to print questionnaire for pre- and post-test group was limited.

4.14 Delimitations

The study is limited to the context of a higher education institution in Namibia and to the cohort of 3rd year students in the School of Management at the PoN. Furthermore, the scope of the study gauged the employability in terms of the skills required which is the supply side. However, the study did not allow for consideration of other WIL stakeholders (higher education and industry) views on the employability of WIL exposed graduate on demand side. Other curriculum activities in teaching and learning, albeit their importance in shaping the employability and career development of graduates were not considered. The survey method was utilised to collect data as it was the most convenient for time and financial effective. However, various data collection methods could be employed to ensure a high number of responses and to reach a larger sample in order to be able to generalise the research results.

4.15 Ethical consideration

Ethical considerations were observed in this study since human participants were required. Moreover, Tavakori (2012:276) explained that research ethics include the aspect of informed consent, a procedure during which the prospective participants in the research are informed about details of the research that could influence their decision to participate in the study or not. Informed consent includes four elements, namely, competence, voluntarism, full information and comprehension (Tavakori, 2012:277). In addition, Walliman (2011:42) explained two ethical issues aspects that include among others; "individual values of the researcher relating to honesty, personal integrity and researcher's treatment of other people involved in the research, informed consent, confidentiality, anonymity and courtesy". In the current study some of the ethical aspects highlighted above were considered and dealt with as follows:

- Participants' were made aware that their participation was voluntary via a letter attached to the PCRI instrument that was handed out in class. In addition, the participants were informed that their involvement in the research was voluntary and they could withdraw at any time without facing any consequences.
- Reassurance was provided to the participants that the collected data would be utilised for academic purposes.
- The participants were informed about the purposes, contents, and procedures of the research, and also of the benefits that might derive from the research.
- Participants were informed that consent was obtained through approval to conduct the research, before embarking on the research see ethics letter in Appendix A.
- Courtesy was observed as approval to conduct the research at the institution of higher learning in Namibia was obtained from the Polytechnic of Namibia (PoN), before embarking on the research see ethics letter in Appendix. In addition, permission to collect data during class time was request from the Lecturer.

The process explained above is based on the research ethics literature and adheres to the ethical requirements of the Cape Peninsula University of Technology (CPUT). Research ethics clearance was obtained from CPUT ethics committee in the form of a letter. The participants were assured of confidentiality, anonymity and the non-disclosure of the information they had furnished (see letter attached to the in Appendix C and the questionnaire utilised for the study is also attached in Appendix D.

4.15.1 Voluntary Participation

Voluntarism involves free participation of the respondents in the research study with no penalty attached in the event of refusal to participate (Marczyk *et al*., 2005:260). Information is conveyed to the potential research participants in an effort to ensure that consent to participate in the research is voluntary. In the current study voluntary participation was ensured by informing the participants verbally and in writing prior to commencement of the research in order to obtain of consent voluntary from the participants. Moreover, respondents were informed via the consent letter that was attached to the questionnaire that their participants was voluntary and they can withdraw from the study any time they feel pressure to participate.

4.15.2 Anonymity

According to Singh (2005:398), "research anonymity requires that the researchers make it impossible to identify participants during the data from the published research".

In the study a survey research method was utilised to collect data, thus the researcher withdrawn the participants names from the responses during the coding and recording process (Creswell, 2011:96). Moreover, the participants were assured that their anonymity would be protected, as explained in the letter attached in Appendix B and assured that their information they disclose will be kept confidential and they remain anonymous.

4.16 Conclusions

In this chapter the research design used to attain the objectives of the study was outlined, by focusing on the types of designs and highlighting the quasi-experimental research design as the appropriate design implemented in the study. Recent literature resources were used to explain the research philosophies strategies were analysed and recommended the relevant philosophy for the study. Moreover, the study target population and sampling strategy was described in detail in terms of their appropriateness. Thereafter, the PCRI instrument utilised and its dimensions and the WIL checklist as well as how it was administered was discussed in detail. In addition, the data collection and analysis processes was explained including the descriptive and the inferential statistical methods utilised to support in responding to the research questions were discussed. Furthermore, the validity and reliability tests were explained in terms of testing them through the use of Cronbach's alpha and factor analysis to determine the relevance of the PCRI. Experts in the field of research were consulted to ensure that a logical research process was followed throughout. All sources used were cited. The limitation of the study in terms of the data collection, time and financial constraints. An informed agreement was entered into with the participants. Participants were advised that they would be allowed to view the results of the research, which will be contained in an article upon completion of the thesis. In addition, information will be made accessible by reporting the research process and findings in the form of a thesis. The study population and the sample were discussed. Lastly, the delimitations of the study concerning the ethical issues of the study were discussed, since the study involved human beings, and their consent and permission was obtained. The following chapter explains the study findings.

CHAPTER FIVE: EMPIRICAL FINDINGS

5.1 Introduction

This chapter describes how the research was carried out, starting with the research approach. It further presents the empirical findings of the research and sets out the results in tabular and figure formats. The details of the raw data obtained were analysed using the SPSS version 25. The research was purely quantitative, as explained in the preceding chapters. The chapter resumes with a discussion on the reliability and validity of the study to ascertain the sufficiency and consistency of the data. Thereafter, descriptive statistics analyses are presented and the demographic variables are explained to provide the background information of the study. Lastly, the inferential statistical analysis, consisting of the means, standard deviation, t-test analysis and ANOVA, is presented to aid in answering the research questions, and the salient points raised in the chapter are summarised. The next section explains the reliability and validity of the instrument, as tested by means of Cronbach's alpha and factor analysis.

5.2 Reliability and Validity of the instrument

The reliability of the PCRI was tested through Cronbach's alpha, while the validity of the dimensions was evaluated through factor analysis. According to Kanyongo (2005:333), when determining which components to retain in determining the validity of the instrument, the components with eigenvalues greater than one can be retained as per the Kaizer rule. This would mean that the results are reliable. The validity of each dimension, retaining its factors through the eigenvalue, and that of the PCRI's sub-dimensions, demonstrate the suitability and sufficiency of the data utilised.

5.3 Reliability of instrument

Cronbach's alpha (α) was used to measure the reliability or internal consistency of the PCRI to ensure that the construct variables are geared towards measuring the constructs (in this case, the PCRs). As was done by Coetzee (2013) in her study, the reliability of the PCRI was determined by means of Cronbach's alpha coefficient. According to the literature, it is desirable for the coefficient to fall between 0.60 and 0.80; the closer it gets to one, the more reliable the instrument or questionnaire is (Coetzee, 2013). The Cronbach's alpha of the Career preferences construct during the current study had the same α of 0.84 as discovered from Coetzee's study of a random

sample of employed students who were registered across various fields, as displayed in Table 5.1 below and in Table 4.5 (page 65), in the previous section respectively. This indicates that the PCRI was reliable during Coetzee's study as well as in this study in measuring the PCRs dimensions.

5.4 Reliability test comparison

The Career values construct during the current study had a Cronbach α of 0.72, as displayed in Table 5.1 below, while Coetzee's study revealed an α of 0.74 for the career values construct, as displayed in Table 4.5 in the previous chapter. This indicates that the career values construct from Coetzee's study and from the current study are both reliable. Overall, the reliability of the PCRI construct during the current study and during Coetzee's study was discovered to be above 0.7, meaning that the construct variables were correctly geared towards measuring the constructs. This indicates that the PCRI instrument was highly reliable.

Based on the results in Table 5.1 below, the Career drivers construct recorded an α of 0.79, while the Career harmonisers construct had an α of 0.88.

Table 5.1: Reliability of scales

Construct	No of items in the scale	Study Cronbach's Alpha	Std. Deviation	Coetzee Cronbach's Alpha	Std. Deviation
Career Preferences	17	0.84	11.2	0.84	8.22
Career Values	6	0.72	4.6	074	3.78
Career Enablers	9	0.82	6.3	0.71	4.1
Career Drivers	11	0.79	7.5	0.78	4.60
Career Harmonisers	21	0.88	15.4	0.88	9.20

5.4.1 Validity test comparison

The validity of each construct was tested using the factor analysis (principal component method) test. According to Coetzee (2007:13), the Kaiser-Meyer-Olkin (KMO) measure

for adequacy ranged from 0.79 to 0.92 for each of the subscales, thus indicating that the sample was adequate. In the current study, the KMO measure ranged from 0.68 to 0.84, showing that they are in the acceptable range as depicted in Table 5.2. Compared to Coetzee's range, there is a slight decrease in the range of the current study, and the difference between the current range and Coetzee's range is higher than the current study range. However, the validity in this study is adequate, as the KMO measure of sampling adequacy was applied and the data was found to be sufficiently valid, since the KMO value was above 0.50, which thus certifies that the construct has sufficient data to achieve valid results. Moreover, each construct must retain factors contributing to at least 50% of the variation in all variables forming the respective construct.

Table 5.2: Validity of the scales

Construct Pre-WIL scores for the WIL Placed and unplaced groups	**KMO**	**No of Items**	**No of factors/Component with Initial Eigenvalues greater than 1 extracted**	**Extraction Sums of Squared Loadings: Cumulative %**
Career Preferences	0.78	17	5	60.3
Career Values	0.68	6	2	67.1
Career Enablers	0.84	9	2	55.4
Career Drivers	0.74	11	3	58.2
Career Harmonisers	0.79	21	6	66.9

5.4.2 Sample of study and composition

This study targeted third year level undergraduates who made up the sample. The pre-WIL placement sample consisted of 55% (N=89) unplaced and 45% (N=75) placed respondents, while the post-WIL placement sample consisted of 57% (N=80) unplaced and 43% (N=60) placed respondents. The attrition in the respondents' numbers (from 164 to 140) can be explained by the fact that the researcher had no control over the respondents' participation in the study, and therefore a non-probability sample was utilised in the study. Secondly, there was no guarantee that the same number of respondents would be in the class for the pre-WIL and post-WIL surveys. Age, marital

status and ethnic group were used to align the respondents from the pre-WIL tests and the post-WIL tests. Since it was the same people who had been tested twice, to avoid double counting through alignment, the final sample in the pre-WIL tests was 164, while that of the post-WIL tests was 140, as depicted in Table 4.1 in the previous chapter. The next section explains the demographic composition of the sample.

5.5 Descriptive analyses

The information presented in the section below relates to the demographics of the respondents and the composition of the sample.

5.5.1 Demographics of respondents

Demographic characteristics of respondents include their ethnic group, gender, age, and marital status as well as the similarities and differences between the Pre- and Post-test samples demographic is covered as follow.

5.5.1.1 Ethnic group

The majority of the respondents who took part in the study were African (Black); they constituted 89% (*N*=146) during the pre-WIL tests and 91.4% (*N*=128) during the post-WIL tests; of the total ethnic group presented in Table 5.3, only one respondent was identified as White during the pre-WIL tests, which represented 0.6% *(N=1)* of the total. The others described themselves as Coloured or as 'Other', and a small percentage did not answer the question. These demographics are no surprise as, based on observation, more than 80% of students enrolled at the Namibia University of Science and Technology (NUST), formerly known as the Polytechnic of Namibia (PoN), are African. A small number of students who participated in the post-WIL tests, that is 4.3% (*N*=6), did not answer the ethnicity question at all (see Table 5.3 below).

Table 5.3: Ethnic group

Ethnic group		Pre-Test	Post-Test
African	Count	146	128
	% of Total	89.0%	91.4%
Coloured	Count	7	3
	% of Total	4.3%	2.1%
Did not answer	Count	7	6
	% of Total	3.7%	4.3%
Other	Count	3	3
	% of Total	2.4%	2.1%
White	Count	1	0
	% of Total	0.6%	0%
Total	Count	164	140
	% of Total	100.0%	100.0%

5.5.1.2 Gender

In terms of gender, female students made up 71.5% (*N*=118) of the respondents during the pre-WIL tests, while males amounted to 26.1%, and 2.4% of the respondents did not answer this question. This indicates that the majority of the respondents who took part in the pre-WIL tests were females 71.5% (*N*=118). This varied slightly in the post-WIL tests, where 70% *(N*=98) of the respondents were female and 27.1% (*N*=38) were male. The results are summarised in Table 5.4 below.

Table 5.4: Gender

Gender		Pre-Test	Post-Test
Did not answer	Count	3	4
	% of Total	2.4%	2.9%
Female	Count	118	98
	% of Total	71.5%	70.0%
Male	Count	43	38
	% of Total	26.1%	27.1%
Total	Count	164	140
	% of Total	100.0%	100.0%

5.5.1.3 Age

Table 5.5 shows that the majority of students were less than 26 years of age (that is 25 years and younger); they constituted 78.2% (N=129) of the respondents during the pre-WIL tests and 77.1% (N=108) in the post-WIL tests.

Table 5.5: Age

Age Group		Pre-Test	Post-Test
25 years and younger	Count	129	108
	% of Total	78.2%	77.1%
26-40 years	Count	30	28
	% of Total	18.2%	20.0%
41-55 years	Count	2	
	% of Total	1.2%	
Did not answer	Count	3	4
	% of Total	2.4%	2.9%
Total	Count	164	140
	% of Total	100%	100%

5.5.1.4 Marital status

The majority of the respondents who took part in the study were single (in other words they had never married before); they represented 93.3% (N=154) respondents during the pre-WIL tests and 95.0% (N=133) respondents during the post-WIL tests. Only 2.1% (N=3) of the students indicated that they were married during the post-WIL tests, as indicated in Table 5.6.

Table 5.6: Marital status

Marital status		Pre-Test	Post-Test
Did not answer	Count	3	4
	% of Total	2.4%	2.9%
Married	Count	7	3
	% of Total	4.2%	2.1%
Single	Count	154	133
	% of Total	93.3%	95.0%
Total	Count	164	140
	% of Total	100.0%	100.0%

The similarities and differences in the pre- and post-WIL samples are explained in the section below.

5.5.1.5 Similarities and differences between the pre- and post-WIL samples

The members of the pre- and post-WIL samples were drawn from the same group of the School of Management students. The sample similarity conditioning are; WIL eligibility, WIL exposed and non-WIL exposed was similar in the pre- and post-WIL tests. Moreover, the pre- and post-WIL test groups had similar frequencies in terms of ethnic group, gender, age and marital status. The similarity in the characteristics of the sample increased the internal validity of the sample, as it eliminated some of the most important confounding variables. Therefore, no significant data was lost through attrition; the characteristics of the samples are similar and all the scales were utilised. However, it should be noted that the respondents were not randomly assigned to participate in the study, and there could thus be differences caused by other variables. The similarities and differences in the PCRs (employability) among the two sample groups (WIL-placed and unplaced) were determined through inferential statistics, which are illustrated and discussed in the next section.

5.6 Inferential statistics

The inferential statistics analysis implemented to test the research questions and the hypotheses in the current study is outlined below. They are tested through the means,

standard deviation, Analysis of Variance (ANOVA), t-statistics and p-values, which all aid in determining the similarities and differences between the pre-post placed and unplaced groups. Furthermore, the analysis of each of the career dimensions of the PCRs, namely, preferences, values, enablers, drivers and harmonisers, is illustrated and interpreted. The interpretation focuses on the similarities and differences between the pre- and post-WIL placed and pre- and post-WIL unplaced scores (that is the pre- versus post-WIL test scores) in the study. The next section outlines the study's main research question, hypothesis number 1 of the six hypotheses, and the paired samples t-test results, which compare difference in means results of the pre- and post-PCRs (employability) scores for the pre-WIL placed and unplaced respondents.

5.6.1 Is there a significant difference in scores between pre-and post-PCRs (employability) scores for the pre-WIL placed respondents?

H1: There is a significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL placed groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL placed groups.

5.6.1.1 Career preferences (pre- versus post-test) pre-WIL placed

The career preferences refer to the respondent's awareness of their career aspirations, and to how they understand their career. The mean scores relating to the career preferences for the pre- and post-WIL placed students are compared in Table 5.7 below. There was no significant difference in the scores for this dimension's means score in respect of the pre-WIL placed group (M=4.85, SD=0.53) and the post-WIL placed group (M=4.70, SD=0.71); t (59) =1.202, p=0.234. There was a slide decrease in the mean score of the post-WIL placed respondents relating to their career preferences. Nevertheless, the results suggest that there is no significant difference between the pre- and post-PCRs (employability) mean scores for the pre- and post-WIL placed groups. This is an indication that WIL does not have an influence on the career preferences of the respondents, regardless of whether they were part of the pre- or the post-WIL placed group. Therefore, the null hypothesis is accepted and conclude that there are no significant differences between the pre- and post-test respondents who have participated in the WIL programme.

Table 5.7: Career preferences paired t-test (pre-post) pre-WIL placed

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Preferences Pre-test	4.85	60	.53	.0685
	Career Preferences Post-test	4.71	60	.71	.0918

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
Pair 1	Career Preferences Pre-test	.1450	.9342	.1206	-0963	.3863	1.202	59	.234

5.6.1.2 Career values (pre- versus post-test) pre-WIL placed

Career values refer to the extent to which respondents are familiar with their individual beliefs and aspirations. The career values scores represented in Table 5.8 below show that there was no significant differences in the scores for the pre-WIL placed group (M=4.91, SD=0.68) and the post-WIL placed group (M=4.64, SD=1.00); t (59)=1.675, p=0.099). Although it looks like the mean of the pre-WIL placed respondents' career values is high, the paired sample test result suggests that the difference between the means of the pre- and post-WIL placed groups was not significant in this dimension. This means that WIL does not contribute to the employability of respondents respectively in the pre- and post-WIL placed group. The null hypothesis is therefore accepted, and the conclusion is that there are no significant differences between the pre- and post-WIL placed respondents.

Table 5.8: Career values paired t-test (pre- versus post-test) pre-WIL placed

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Values_Pre_Test	4.91	60	.68	.0880
	Career_Values_Post_Test	4.64	60	1.0	.1293

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Career_Values_Pre-Test Career_Values_Post- Test	.2667	1.2334	.1592	-.0520	.5853	1.675	59	.099

5.6.1.3 Career enablers (pre- versus post-test) pre-WIL placed

Career enablers indicate the extent to which the respondents are able to apply innovative skills, self-management skills and transferable skills to succeed in their careers. The paired sample t-test utilised compared the mean scores in respect of the career enablers, as represented in Table 5.9 below, and shows that there was no significant difference in the scores for the pre-WIL placed (M=5.00, SD=0.67) and the post-WIL placed (M=4.82, SD=0.91) groups; t (59)=1.1743, p=0.245). The null hypothesis is therefore accepted, since there is an insignificant and slight difference in the means of the pre- and post-WIL groups. Moreover, the results suggest that WIL does not have an influence on the PCRs (employability) of the respondents, regardless of whether they are part of the pre- or the post-WIL placed group. Therefore, it is concluded that there are no significant differences between the pre- and post-WIL placed respondents in terms of career enablers.

Table 5.9: Career enablers paired t-test (pre- versus post-test) pre- WIL placed

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_enablers_Pre_Test	5.00	60	.67	.0868
	Career_enablers_Post_Test	4.82	60	.91	.1180

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	d	Sig. (2-tailed)
Pair 1	Career_enablers_Pre_Test Career_enablers_Post_Test	-.1767	1.1661	.1505	-.1246	.4779	1.174	59	.245

5.6.1.4 Career drivers (pre- versus post-test) pre-WIL placed

Career drivers reflect the degree to which the respondents are aware of their career purpose and direction, and whether they can effectively pursue their career of choice. A paired sample t-test conducted on the mean scores of the career drivers between the pre- and post-WIL placed respondents is compared and shown in Table 5.10 below. The result shows that there was no significant difference in the mean scores of the PCRs for the pre-WIL placed group (M=4.92, SD=0.60) and the post-WIL placed group (M=4.91, SD=0.72); t (59) =0.093, p=0.926). Therefore, it is concluded that WIL does not have an influence on the PCRs (employability) of the pre- and post-WIL placed respondents. The null hypothesis is thus accepted, which was not unexpected given that the pre- and post-WIL test means were almost identical.

Table 5.10: Career drivers paired t-test (pre- versus post-test) pre-WIL placed

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Drivers_Score_Pre_Test	4.92	60	.60	.0774
	Career_Drivers_Score_Post_Test	4.91	60	.72	.0929

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Career_Drivers_Score_Pre_Test Career_Drivers_Score_Post_Test	.0117	.9718	.1255	-.2394	.2627	.093	59	.926

5.6.1.5 Career harmonisers (pre- versus post-test) pre-WIL placed

Career harmonisers indicate the extent to which the respondents are conscious of their self-esteem, behavioural adaptability, emotional literacy and social connectivity. A paired t-test of the career harmonisers, represented in Table 5.11 below, shows no significant difference in the scores for the pre-WIL placed (M=4.75, SD=0.60) and the post-WIL placed groups (M=4.62, SD=0.66); t (59)=0.33, p=0.981). The results show that the mean for the post-WIL placed group decreased slightly compared to the pre-WIL placed group. Since the difference between these scores was not significant, it is concluded that WIL does not have an influence on the PCRs (employability) of the respondents. Therefore, the null hypothesis is accepted, given the insignificance of the difference between the two groups' means.

Table 5.11: Career harmonisers paired t-test (pre- versus post-test) pre-WIL placed

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Harmonisers_Pre_Test	4.75	60	.60	.0770
	Career_Harmonisers_Post_Test	4.62	60	.66	.0848

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Career_Harmonisers_Pre_Test Career_Harmonisers_Post_Test	-.1233	.9738	.1257	-.1282	.3749	.981	59	.331

In the next section the differences between the pre- versus post-WIL unplaced PCRs (employability) scores are displayed and discussed, based on research question number 2 and hypothesis number 2.

5.6.2 Is there a significant difference between the pre- and post-PCRs (employability) scores for pre-WIL unplaced respondents?

H2: There is a significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL unplaced groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL unplaced groups.

5.6.2.1 Career preferences (pre- versus post-test) pre-WIL unplaced

A sampled paired t-test compared the mean difference between the pre- and post-WIL unplaced scores of the respondents. The career preferences mean scores of the pre- and post-WIL unplaced respondents in Table 5.12 below show that there was no significant difference between the pre-WIL unplaced (M=4.89, SD=0.65) and post-WIL unplaced (M=4.89, SD=0.73) groups; t (78)=-0.819, p=0.415). In other words, the pre- and post-WIL unplaced respondents showed no difference in terms of their career preferences. Therefore, the null hypothesis is accepted.

Table 5.12: Career preferences paired t-test (pre-Post) pre-WIL unplaced students

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Preferences Score for Pre-test	4.89	79	.65	.0728
	Career Preferences Score for Post-test	4.98	79	.73	.0819

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	(2-tailed)
Pair 1	Career Preferences Pre-test-Career references Post-test	-.0810	.8793	.0989	-.2780	.1159	-.819	78	.415

5.6.2.2 Career values (pre- versus post-test) pre-WIL unplaced

The mean scores in respect of the career values, as summarised in Table 5.13 below, show that there is no significant difference between the pre-WIL unplaced (M=5.02, SD=0.80) and post-WIL unplaced respondents (M=4.93, SD=1.10); t (76)=-0.607, p=0.545), even though the mean scores were close. Therefore the null hypothesis was accepted.

Table 5.13: Career values paired t-test (pre- versus post-test) pre- unplaced students

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Values_Pre_Test	5.02	77	.80	.0915
	Career_Values_Post_Test	4.93	77	1.10	.1254

Paired Samples Test									
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Career_Values_Pre_Test - Career_Values_Post_Test	-.094	1.3699	.1561	-.2161	.4057	.607	76	.545

5.6.2.3 Career enablers (pre- versus post-test) pre-WIL unplaced

The t-test paired test was conducted to compare the difference between the means of the two groups of respondents' in respect of the career enablers. The mean scores with regard to the career enablers, depicted in Table 5.14 below, show that there was no significant difference in the scores for the pre-WIL placed (M=4.92, SD=0.72) and the post-WIL placed groups (M=5.01, SD=1.18); t (76)=0.563, p=0.575). The results of the paired sample t-test indicated that there was no difference in the PCRs (employability) based on the career enablers. Hence, hypothesis number 2 is disproved and the null hypothesis is accepted.

Table 5.14: Career enablers paired t-test pre-post WIL unplaced students

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_enablers_Pre_Test	4.92	77	0.72	.0818
	Career_enablers_Post_Test	5.01	77	1.18	.1344

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Career_enablers_Pre_Test - Career_enablers_Post_Test	-.0948	1.4766	.1683	-.4299	.2403	-.563	76	.575

5.6.2.4 Career drivers (pre- versus post-test) pre-WIL unplaced

The difference in the means scores in respect of the career drivers was tested through the paired sample t-test, whose results are given in Table 5.15 below. The results show that there was no significant difference between the scores for the pre-WIL unplaced (M=5.06, SD=0.70) and the post-WIL unplaced groups (M=4.95, SD=0.89); t (76) =0.946, p=0.17). Moreover, it was observed that the pre-WIL unplaced score was slightly high, whereas the post-WIL unplaced mean was relatively low. However, the difference was confirmed as insignificant. Therefore, the null hypothesis was proved and no significant difference was found in the career drivers between the pre- and post-WIL unplaced respondents.

Table 5.15: Career drivers paired t-test (pre- versus post-test) Pre-WIL unplaced

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Drivers_Score_Pre_Test	5.06	76	.70	.0804
	Career_Drivers_Score_Post_Test	4.95	76	.89	.1021

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Career_Drivers_Score_Pre_Test - Career_Drivers_Score_Post_Test	.1145	1.0546	.1210	-.1265	.3555	.946	75	.347

5.6.2.5 Career harmonisers (pre- versus post-test) pre-WIL unplaced

The means scores in relation to the career harmonisers for the pre- and post-WIL unplaced students are represented in Table 5.16 below. The results show that there is a significant difference in relation to the career harmonisers between the pre-WIL unplaced (M=4.70, SD=0.70) and the post-WIL unplaced (M=4.47, SD=1.04) groups; t (76) =1.627, p=0.108). The post-WIL unplaced mean decreased slightly; the difference, which was tested through the paired sample t-test, indicated that the mean scores of the career harmonisers were significant. Since the p-value is equal to the significant figure, H1 was proved only in this dimension. Nonetheless, this result does not influence the overall PCRs (employability) scores, and therefore it is regarded as an insignificant result. However, the significant results do confirm the presence of the career harmonisers dimension in the pre-WIL unplaced respondents, which was not expected, as these respondents had not been exposed to WIL.

Table 5.16: Career harmonisers paired t-test (pre- versus post-test) pre- WIL unplaced

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career_Harmonisers_Pre_Test	4.70	77	0.70	.0801
	Career_Harmonisers_Post_Test	4.47	77	1.04	.1185

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Error Man	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Career_Harmonisers_Pre_Test - Career_Harmonisers_Post_Test	.2286	1.2331	.1405	-.0513	.5084	1.627	76	.108

The results pertaining to research question number 3, hypothesis number 3, the paired sample and the t-tests group statistics analysis in respect of the WIL-placed and unplaced groups (pre-WIL placed versus post-WIL placed) are displayed and explained below. The results of the pre-WIL placed and unplaced groups are discussed first, which is followed by the results obtained with regard to the post-WIL placed and unplaced respondents.

5.6.3 Is there a significant difference between the pre- and post-PCRs (employability) scores for the pre-WIL placed and pre-WIL unplaced groups?

H3: There is a significant difference between the pre- and post-PCRs (employability) scores of the pre-WIL placed and pre-WIL unplaced undergraduate groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the pre-WIL placed and pre-WIL unplaced undergraduate groups.

5.6.3.1 Paired sample T-test (group statistics): pre-WIL placed versus pre-WIL unplaced students (Pre-Study)

The t-test group statistics and the paired t-test independent samples tested the difference between the PCRs (employability) scores of the WIL-placed (a) and unplaced (b) respondents (during the pre-WIL study). The results displayed in Table

5.17 below show the t-test group statistics scores of the PCRs dimensions during the pre-WIL study in respect of the unplaced and WIL-placed respondents. The unplaced respondents' career preferences give a result of M=4.88, SD=0.64, whereas the WIL-placed respondents have a score of M=4.81, SD=0.63; this indicates a slight decrease in the mean scores of the WIL-placed respondents. Similarly, the career values mean of the unplaced respondents, which is M=5.01, SD=0.81, is slightly higher, whereas that of the WIL-placed students, M=4.88, SD=0.72, is slightly lower. Moreover, the mean for the career enablers of the unplaced students, M=4.90, SD=0.70, and the WIL-placed students, M=4.10, SD=0.68, indicates a slight increase in the mean of the WIL-placed group. The mean of the career drivers for the unplaced group, M=4.10, SD=0.74, is also slightly high, whilst that of the WIL-placed group, M=4.95, SD=0.59, shows a decrease in the mean. Finally, the mean in respect of the career harmonisers for the unplaced group, M=4.68, SD=0.71, is slightly low, whereas that of the WIL-placed group, M=4.77, SD=0.59, indicates a slight increase. As there is no significant difference in the mean scores, therefore, we reject the null hypothesis.

Table 5.17: T-test (group statistics): WIL placed versus unplaced (pre-study)

Group Statistics					
Employability Construct	WIL Placed or un Placed	N	Mean	Std. Deviation	Std. Error Mean
Career Preferences	Unplaced	89	4.88	.64	.0683
	Placed	75	4.81	.63	.0735
Career Values	Unplaced	87	5.01	.81	.0867
	Placed	75	4.89	.72	.0834
Career enablers	Unplaced	87	4.90	.70	.0755
	Placed	75	4.10	.68	.0783
Career Drivers	Unplaced	86	4.10	.74	.0800
	Placed	75	4.95	.59	.0683
Career Harmonisers	Unplaced	87	4.68	.71	.0761
	Placed	75	4.77	.59	.0687

The t-test Independent Samples test, depicted in Table 5.18 below, tested the significance of the difference between the WIL-placed students versus the unplaced students (during the pre-study) in each dimensions**.** The career preferences t-test score shows that there was no significant difference in the scores for the WIL placed (M=0.64, SD=0.10) and unplaced students (M=0.64, SD=0.10); t (158) =0.642, p=0.522. The career values too indicated no significant differences for WIL-placed (M=0.129, SD=0.12) and unplaced students (M=0.129, SD=0.12); t (160) =1.071, p=0.286. Additionally, the career enablers indicated no significant differences for WIL-placed

(M=-0.096, SD=0.11) and unplaced students (M=0.129, SD=0.12); t (158) =0.886, p=0. Furthermore, the career drivers paired sample score indicated that there was no significant difference in the scores for WIL-placed (M=0.50, SD=0.11) and unplaced students (M=0.50, SD=0.11); t (160) 0.470, p=0.639. And finally, the career harmonisers too indicated no significant difference in the scores for WIL-placed (M=0.50, SD=0.11) versus unplaced students (M=0.50, SD=0.11); t (160) =-0.884, p=0.378. The results show that there were no significant differences in the mean scores of WIL-placed and unplaced students across all the PCRs (employability) dimensions.

Table 5.18: T-test (independent samples test): WIL placed versus unplaced (pre-study)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Career Preferences	Equal variances assumed	.549	.460	.641	162	.522	.064	.10	-.1340	.2628
	Equal variances not assumed			.642	158	.522	.064	.10	-.1338	.2626
Career Values	Equal variances assumed	1.438	.232	1.062	160	.290	.129	.12	-.1108	.3685
	Equal variances not assumed			071	160	.286	.129	.12	-.1088	.3665
Career enablers	Equal variances assumed	.250	.618	-.883	160	.378	-.096	.11	-.3118	.1191
	Equal variances not assumed			-.886	158	.377	-.096	.11	-.3112	.1185
Career Drivers	Equal variances assumed	2.187	.141	.463	159	.644	.050	.11	-.1615	.2606
	Equal variances not assumed			.470	160	.639	.050	.11	-.1584	.2574
Career Harmonisers	Equal variances assumed	2.464	.118	-.872	160	.384	-.091	.10	-.2956	.1144
	Equal variances not assumed			.884	160	.378	-.091	.10	-.2929	.1118

In the next section, the difference between the PCRs (employability) scores of the post-WIL placed (c) and post-WIL unplaced (d) respondents are compared and discussed. Research question number 4 and hypothesis number 4 are discussed, based on the paired t-test independent samples analysis.

5.6.4 Is there a significant difference between the PCRs (employability) scores for the post-WIL placed and post-WIL unplaced respondents?

H4: There is a significant difference between the pre- and post-PCRs (employability) scores of the post-WIL placed and post-WIL unplaced undergraduate groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the post-WIL placed and post-WIL unplaced undergraduate groups.

In this section the difference between the post-WIL placed (c) and post-WIL unplaced (d) respondents PCRs (employability) dimensions is compared by using the t-test group statistics, which indicates a difference in the means, and the Paired t-test Independent samples analysis, which tests for a significant difference in the PCRs (employability) of the respondents.

The results depicted in Table 5.19 indicate the mean scores of the unplaced and WIL-placed respondents across all PCRs (employability) dimensions during the post-WIL surveys. The career preferences of the unplaced respondents show a mean of M=4.99, SD=0.73, which is a slightly high mean, whereas that of the WIL-placed respondents is M=4.71, SD=0.71, which is low. In terms of the career values, the mean scores of the unplaced students is M=4.94, SD=1.09, while the WIL-placed students show a decrease, that is M=4.64, SD=1.00. Furthermore, the mean in respect of the career enablers for the unplaced students is M=5.02, SD=1.16, while that of the WIL-placed students is M=4.82, SD=0.91, representing a marginal decrease. Conversely, the mean of the career drivers for the unplaced students is M=4.93, SD=0.89, while that of the WIL-placed students is M=4.91, SD=0.72, showing a slight decrease. Lastly, the mean in respect of the career harmonisers of the unplaced students is M=4.48, SD=1.03, while that of the WIL-placed students is M=4.62, SD=0.66, showing a slight decrease.

It can be generally observed that the unplaced respondents have marginally higher PCRs (employability) scores than the placed respondents, though this result is not significant. Based on these results, it can be concluded that the unplaced placed

respondents have marginally higher employability means than the WIL-placed students. However, there are no significant differences between these scores. Therefore, we fail to reject the null hypothesis and thus accept that there is no difference in the PCRs (employability) scores between the unplaced and WIL-placed respondents.

Table 5.19: Paired T-test (Group Statistics): WIL placed students versus unplaced (post-study)

Group Statistics					
	WIL Placed or unplaced	N	Mean	Std. Deviation	Std. Error Mean
Career Preferences	Unplaced	80	4.99	.73	.0814
	Placed	60	4.71	.71	.0918
Career Values	Unplaced	80	4.94	1.09	.1220
	Placed	60	4.64	1.00	.1293
Career enablers	Unplaced	80	5.02	1.16	.1299
	Placed	60	4.82	.91	.1180
Career Drivers	Unplaced	80	4.93	.89	.0997
	Placed	60	4.91	.72	.0929
Career Harmonisers	Unplaced	80	4.48	1.03	.1153
	Placed	60	4.62	.66	.0848

The t-test independent samples test was conducted to compare the significant differences in terms of the PCRs (employability) dimensions between the WIL placed and unplaced students (during the pre-placement survey); the results are displayed in Table 5.20 below. The career preferences paired-test shows that there was no significant difference in the scores for the WIL-placed (M=0.28, SD=0.12) and unplaced respondents (M=0.28, SD=0.12); t (129) =2.276, p=0.024. The career values paired-test similarly indicated that there is no significant difference in the scores for the WIL-placed (M=0.30, SD=0.18) and unplaced respondents (M=0.30, SD=0.18); t (132) =0.668, p=0.098. There was also no significant difference in relation to the career enablers between the scores for WIL-placed (M=0.20, SD=0.18) and unplaced respondents (M=0.20, SD=0.18); t (138) =0.132, p=0.264. Moreover, the career drivers paired-test revealed that there was also no significant difference in the scores for WIL-placed (M=0.19, SD=0.14) and unplaced respondents (M=0.19, SD=0.14); t (137) =0.141, p=0.888. However, the career harmonisers paired-test revealed that there was a significant difference in the scores for the WIL-placed (M=-0.14, SD=0.14) and unplaced groups (M=-0.14, SD=0.15); t (135)-0.975, p=0.331. These results suggest that there is no significance differences in the PCRs (employability) between the placed and unplaced students during the pre-study.

Table 5.20: T-test (Independent samples test): WIL placed students versus unplaced (pre-study)

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Career Preferences	Equal variances assumed	.073	.787	2.268	138	.025	.28	.12	.0358	.5225
	Equal variances not assumed			2.276	129	.024	.28	.12	.0365	.5218
Career Values	Equal variances assumed	.61	.49	1.648	138	.102	.30	.18	-.0593	.6527
	Equal variances not assumed			1.668	132	.098	.30	.18	-.0551	.6484
Career enablers Post-Test	Equal variances assumed	.520	.472	1.083	138	.281	.20	.18	-.1623	.5557
	Equal variances not assumed			.121	138	.264	.20	.18	-.1503	.5437
Career Drivers	Equal variances assumed	.069	794	.136	138	.892	.019	.14	-.2586	.2970
	Equal variances not assumed			.141	137	.888	.019	.14	-.2503	.2887
Career Harmonisers	Equal variances assumed	3.988	.048	-.918	138	.360	-.14	.15	-.4403	.1611
	Equal variances not assumed			-.975	135	.331	-.14	.14	-.4226	.1434

The next section attempts to answer research question number 5 and hypothesis number 5, utilising the paired sample t-test repeated measure (groups statistics), to ascertain the PCRs (employability) difference between WIL-placed and unplaced respondents (both during the pre- and the post-WIL surveys). The paired t-test scores point to the difference between the pre- and post-test PCRs (employability) scores of the (e) WIL-placed and unplaced respondents in the pre-WIL placement. In addition, the (f) pre- and post-test WIL- placed and the pre- and post-test unplaced respondents in the post-WIL placement groups are interpreted and displayed in Tables 5.21 - 5.25 below.

5.6.5 Is there a significant difference between the pre- and post-PCRs (employability) scores for the WIL-placed and unplaced respondents (Pre-study and Post-study)?

H5: There is a significant difference between the pre- and post-PCRs (employability) scores of the WIL-placed and unplaced groups.

H0: There is no significant difference between the pre- and post-PCRs (employability) scores of the WIL-placed and unplaced groups.

5.6.5.1 Career preferences pre-test versus post-test

The career preferences paired-test results displayed in Table 5.21 below show that there was no significant difference in the scores for the pre-WIL placed and unplaced students (M=4.88, SD=0.60) and the post-WIL placed and unplaced respondents (M=4.86, SD=0.73); t (138)=0.215, p=0.830. The null hypothesis is thus accepted, which was not unexpected, given that the pre- and post-test means scores were almost identical.

Table 5.21: Paired T-tests: Career preference for (Pre- and Post-test) WIL placed and unplaced

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Preferences Score for Pre-test	4.88	139	.60	.0507
	Career Preferences Score for Post-test	4.86	139	.73	.0620

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Pair 1	Career Preferences Score for Pre-test - Career Preferences Score for Post-test	.0165	.9070	.0769	-.1356	.1687	.215	138	.830

5.6.5.2 Career values pre-test versus post-test

The career values mean scores for the WIL-placed and unplaced respondents, both pre-test and post-test, in Table 5.22 indicate that there was no significant difference in the scores of the pre-WIL placed and unplaced respondents (M=4.97, SD=0.75) and the post-WIL placed and unplaced respondents (M=4.80, SD=1.06); t(136)1.520,p=0.131. The null hypothesis is thus accepted, which was not unexpected, given that the pre- and post-test means were almost the same.

Table 5.22: Paired T-test samples statistics: Career values for pre-test versus post-test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Values Pre-Test	4.97	137	.75	.0643
	Career Values Post-Test	4.80	137	1.06	.0910

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Career Values Pre-Test – Career-Values Post-Test	.1701	1.3099	.1119	-.0512	.3914	1.520	136	.131

5.6.5.3 Career enablers pre-test versus post-test

The mean score in respect of the career enablers for the pre-WIL test and the post-WIL test in Table 5.23, show that there was no significant difference in the scores between the pre-WIL placed and unplaced groups (M=4.95, SD=0.70) and the post-WIL placed and unplaced groups (M=4.93, SD=1.07); t(136)1.209,p=0.835. The mean scores for the WIL-placed and unplaced respondents, both pre- and post-test, are almost similar. Since the difference in the means was not convincingly significant between the pre- and post-test means, the null hypothesis is thus accepted.

Table 5.23: Paired T-test samples statistics: Career enablers for pre-test versus post-test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career enablers Pre-Test	4.95	137	.70	.0595
	Career enablers Post-Test	4.93	137	1.07	.0916

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Career enablers Pre-Test – Career enablers Post-Test	.0241	1.3515	.1155	-.2043	.2524	.209	136	.835

5.6.5.4 Career drivers pre-test versus post-test

The means in respect of the career drivers for the pre-WIL test and post-WIL test scores in Table 5.24 are close. The paired t-test shows that there was no significant difference in the scores for the pre-WIL placed and unplaced respondents (M=5.00, SD=0.66) and for the post-WIL placed and unplaced respondents (M=4.93, SD=0.82); t (135) =0.793, p=0.429. The null hypothesis is thus accepted, since the means difference was not convincingly significant between the pre- and post-test scores.

Table 5.24: Paired T-Test samples statistics: Career drivers for pre-test versus post-test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Drivers Pre-Test	5.00	136	.66	.0565
	Career Drivers Post-Test	4.93	136	.82	.0700

Paired Samples Test									
		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Career Drivers Pre-Test – Career Drivers Post-Test	.0691	1.0165	.0872	-.1033	.2415	.793	135	.429

5.6.5.5 Career harmonisers pre-test versus post-test

The results obtained with regard to the career harmonisers, as set out in Table 5.25, indicate that, during the pre-WIL tests the mean scores of the WIL-placed students were higher than during the post-WIL tests. Nerveless, the results indicate that there are no significant differences between the scores for the pre-WIL placed and unplaced respondents (M=4.72, SD=0.66) and for the post-WIL placed and unplaced respondents (M=4.54, SD=0.89); t (136) =1.900, p=0.060. The means in the scores of the post-WIL tests are slightly dispersed compared to the scores of the pre-WIL tests. The null hypothesis is thus rejected since there is significant difference in the career harmonisers of WIL students between the pre- and post-WIL tests as p=0.060.

Table 5.25: Paired T-test samples statistics: Career harmonisers for pre-test versus post-test

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Career Harmonisers Pre-Test	4.72	137	.66	.0561
	Career Harmonisers Post-Test	4.54	137	.89	.0763

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Career Harmonisers Pre-Test - Career Harmonisers Post Test	-.1825	1.1242	.0960	-.0075	.3724	1.900	136	.060

In the following section, research question number 6 and hypothesis number 6 is addressed through ANOVA. The results are interpreted and displayed in Tables 5.26 and 5.27 below. The significant difference between the pre- and post-PCRs (employability) scores of the WIL-placed and unplaced groups is shown. Two groups (pre-WIL placed and pre-WIL unplaced, versus post-WIL placed and post-WIL unplaced) are compared.

5.6.6 Is there a significant difference between the pre- and post-PCRs (employability) scores for the WIL-placed and unplaced (pre-study) groups versus the WIL-placed and unplaced groups (post-study)?

H6: There is a significant difference in the pre- and post-PCRs (employability) scores between the WIL-placed and unplaced groups (pre-study versus post-study).

H0: There is no significant difference in the pre- and post-PCRs (employability) scores between the WIL-placed and unplaced groups (pre-study versus post-study).

The ANOVA test results, depicted in Tables 5.26 and 5.27, indicate that there is no significant difference in the mean scores of the WIL-placed and unplaced groups across all the PCRs dimensions. Interestingly, the mean scores of the career values in the unplaced pre-WIL test had a slightly higher mean score evident at (M=5.01, SD=0.81). In contrast, the WIL-placed respondents' pre-WIL test results were (M=4.88, SD=0.72); [F 1:668]=1.127=.290]. Similarly, the unplaced respondents' post-WIL test to some extent had higher career values (M=4.93 SD=1.91) than those of the WIL-

placed students' pre-test (M=4.64, SD=1.00); [F 1:3018]=2.715=0.102]. The null hypothesis was thus accepted, and it was concluded that there is no significant difference between the WIL-placed and unplaced groups' pre- and post-WIL tests.

Table 5.26: Mean scores per construct and pre- versus post-test

		N	Mean	Std. Deviation
Career Preferences Score for Pre-test	Unplaced	89	4.83	.643
	Placed	75	4.81	.64
	Total	164	4.85	.610
Career Preferences Score for Post-test	Unplaced	80	4.99	.73
	Placed	60	4.71	.71
	Total	140	4.87	.73
Career Values Pre-Test	Unplaced	87	5.01	.81
	Placed	75	4.88	.72
	Total	162	4.95	.77
Career Values Post-Test	Unplaced	80	4.93	1.09
	Placed	60	4.64	1.00
	Total	140	4.80	1.06
Career Enablers Pre-Test	Unplaced	87	4.90	.705
	Placed	75	4.10	.68
	Total	162	4.95	.69
Career Enablers Post-Test	Unplaced	80	5.02	1.16
	Placed	60	4.82	.91
	Total	140	4.94	1.06
Career Drivers Pre-Test	Unplaced	86	4.10	.74
	Placed	75	4.95	.59
	Total	161	4.98	.67
Career Drivers Post-Test	Unplaced	80	4.93	.89
	Placed	60	4.91	.72
	Total	140	4.92	.82
Career Harmonisers Pre-Test	Unplaced	87	4.68	.71
	Placed	75	4.77	.59
	Total	162	4.73	.66
Career Harmonisers Post-Test	Unplaced	80	4.48	1.03
	Placed	60	4.62	.66
	Total	140	4.54	.89

A one-way ANOVA was conducted to compare the effect of WIL on the employability of the WIL-placed and unplaced students in both the pre- and post-WIL groups. Based on the results of the ANOVA analysis in Table 5.27 below, it is confirmed that there were no statistically significant differences between the two groups' means in four of the PCRs (employability) dimensions, namely, career values, career enablers, career

drivers and career harmonisers. In addition, most of the PCRs constructs show no significant differences in the mean scores as discussed in the previous section. The career preferences are the only construct where significant differences were found between the mean scores of the WIL-placed and unplaced students during the post-WIL tests. Since the career preferences dimension is the only one with a higher score in terms of the employability of unplaced respondents, this score is not sufficiently significant to influence the overall results of WIL on the employability of WIL-placed and unplaced groups, as observed at $p<.05$ level for the three conditions [$F(1:169)=411=0.522$, $p<.05$]. In addition, the significant results of the career preferences dimension in the unplaced respondents cannot have an influence on the overall PCRs dimensions (employability) as the independent variable, and thus they cannot influence the dependent variable WIL. Thus, it is concluded that the results are statistically insignificant and the null hypothesis is accepted; this was not unexpected, given that the means of the pre- and post-WIL test groups were almost identical across almost all five dimensions.

Table 5.27: One-way ANOVA results for WIL-placed and unplaced students

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Career Preferences Score for Pre-test	Between Groups	.169	1	.169	.411	.522
	Within Groups	66.540	162	.411		
	Total	66.708	163			
Career Preferences Score for Post-test	Between Groups	2.672	1	2.672	5.145	.025
	Within Groups	71.673	138	.519		
	Total	74.345	139			
Career_Values_Pre_Test	Between Groups	.668	1	.668	1.127	.290
	Within Groups	94.896	160	.593		
	Total	95.564	161			
Career_Values_Post_Test	Between Groups	3.018	1	3.018	2.715	.102
	Within Groups	153.364	138	1.111		
	Total	156.381	139			
Career_enablers_Pre_Test	Between Groups	.374	1	.374	.780	.378
	Within Groups	76.709	160	.479		
	Total	77.083	161			

Career_enablers_Post_Test	Between Groups	1.326	1	1.326	1.173	.281
	Within Groups	155.955	138	1.130		
	Total	157.281	139			
Career_Drivers_Score_Pre_Test	Between Groups	.098	1	.098	.215	.644
	Within Groups	72.737	159	.457		
	Total	72.836	160			
Career_Drivers_Score_Post_Test	Between Groups	.013	1	.013	.019	.892
	Within Groups	93.385	138	.677		
	Total	93.398	139			
Career_Harmonisers_Pre_Test	Between Groups	.330	1	.330	.761	.384
	Within Groups	69.451	160	.434		
	Total	69.781	161			
Career_Harmonisers_Post_Test	Between Groups	.668	1	.668	.842	.360
	Within Groups	109.436	138	.793		
	Total	110.104	139			

5.7 Summary of analysis

The study sample was made up of 89% African black respondents. Most of them were females aged 25 years and younger, in the third year of their degree. The instrument used was confirmed reliable and valid through the Cronbach's alpha test and factor analysis.

There were no significant differences found in the means between the pre-post WIL-placed and unplaced students, and no differences in employability between the post-WIL placed and unplaced students in terms of the career dimensions of values, enablers, drivers and harmonisers. Similarly, there were no differences in the means of both WIL-placed and unplaced respondents during the pre-study in the career dimensions of enablers, drivers and harmonisers. It can thus be concluded that there are no differences in the means and significance variance between the WIL-placed and unplaced groups in the pre- and post-studies in most of the dimensions. Therefore, it can be concluded that the PCRI serves to explain the difference in the employability in only two of the career constructs (preferences and values), but not in the remaining dimensions, in both the pre-study and the post-study and in both the WIL-placed and unplaced groups.

5.8 Conclusion

This chapter interpreted the data analysed, outlined and discussed the validity and reliability of the current study data and compared this with Coetzee's data. Moreover, the descriptive statistics consisting of ethnic group, gender, age and marital status were discussed. In addition, inferential statistics comprising of means, standard deviation, t-statistics and ANOVA tables were presented and explained in detail to put the study into perspective. Chapter Six briefly explain the contents of the six research chapter address the research objectives integrate the empirical findings with literature and explaining how each research objective was addressed, discuss the implication of the study, outline recommendations before conclusions.

CHAPTER SIX: DISCUSSION OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

6.1 Introduction

This chapter focuses on discussing the findings in the previous chapter in detail and integrating these findings with the relevant literature. In addition, the main objective of this chapter is to determine, by using the PCRs framework, whether the WIL approach can impact the employability of graduates. According the Namibia National Planning Commission (2010:27), “inadequate attention to soft skills or employability attributes” is one of the challenges affecting the development of human resources. Employers and other stakeholders in education expect HEIs to produce graduates with skills that are relevant for the knowledge economies of the 21st century. Embedding WIL in the higher education curriculum is regarded as one of the main approaches of enhancing the employability of graduates. However, this has remained an assumption thus far, since there has been little empirical evidence that this approach is indeed effective; thus far, it has only been supported by theoretical studies and limited experiments. Drawing on the literature reviewed in the previous chapters, the empirical findings of the current study will be scrutinized and interpreted.

The main objective of this study was therefore to determine the impact of WIL on the employability of undergraduates by making use of the PCRs. To achieve these objectives, the study as divided into six chapters where Chapter one of this thesis outlined the study’s theoretical background and its focus, as well as the problem statement, research questions and hypotheses. In addition, the significance and scope of the study were explained as well as the PCRI instrument as a measure of employability. It highlighted the space in which the study was conducted and discussed the importance of the study to NUST (formerly known as PoN), and thus the effectiveness of incorporating the WIL intervention in the curriculum. Finally outlined the six thesis chapter.

Chapter Two discussed the origins of the employability construct and how it has been modelled by various researchers, with each model building on its predecessors. The specific instruments of the various models were discussed, compared and contrasted to determine which would be the most appropriate instrument for the current study’s empirical objectives. The concept of employability, as well as its definition, description and conceptualisation and the foundation of the various models, were all discussed.

Moreover, different models of employability were discussed in terms of their foundation, and of how they are built upon one another; the dimensions of employability they measure were also looked at. Since the main objective of the study was to gauge the employability of graduates who have been exposed to WIL, seven models were reviewed, compared and contrasted in order to identify the most appropriate instrument for the study context. The PCRI was identified as the most appropriate for measuring the employability of the students in this case study.

In Chapter Three, the theory of WIL, as discussed in the reviewed literature, was explained as being founded on the principles of experiential learning; this type of learning manifests in different approaches, including placement, simulation, project work, problem-based learning and work-based learning. The importance of WIL in higher education as a vehicle that combines classroom based learning with practical learning to enhance employability was emphasised in the literature review. The WIL approaches and interventions such as; partnerships and mentorships were discussed. Finally, WIL stakeholders (students, higher education and industry) roles and benefits as well as mentorship as an essential element to transfer skills and knowledge during WIL was explained, and challenges relating to WIL were discussed.

Chapter Four discussed the methodology of the study, define the research design concept, highlighted and explained the different types of design. The quasi-experimental research design was discussed in terms of its appropriateness to the due to its capability to accommodate partial control of the experiment and non-random sampling. Moreover, the research philosophy was explained focusing on two epistemology philosophies namely positivism and phenomenology examining their characteristics pointing to the appropriate philosophy for the study. In addition, the research strategies, target population, sampling strategy and research instrument were discussed stressing their appropriateness in the study. Finally the administration of the questionnaire, data analysis, reliability, validity of the PCRI instrument utilised was discussed, as well as the limitation and delimitation of the study.

Chapter Five presented and interpreted the data analysed, which was reported in increasing complexity, starting with descriptive statistics and followed by inferential statistics, which include means and standard deviations, t-statistics and Analysis of Variance (ANOVA). The empirical findings were discussed, focusing on the inferential statistics, to assist in answering the research objectives. The descriptive statistics were outlined as consisting of the biographical data of the respondents, consisting of ethnic

group, gender, age and marital status. The reliability and validity test conducted compared with Coetzee's results was displayed and interpreted. In addition, the research questions and hypotheses were outlined and the results were interpreted by focusing on the study objectives.

Lastly, Chapter Six summarised the content of the preceding chapters, outlines and addresses the research objectives aligning them to the primary and secondary findings in alignment with the research questions. The achievements on the extent that the objectives of the study have been achieved was discussed based on the empirical findings and the literature. This objectives achievement is discussed in terms of t-statistics that determine the means, standard deviation and ANOVA. Lastly, the chapter deliberates the implication of the focusing on the WIL stakeholder, puts forward some recommendations with regard to the possible implementation of the findings contained herein and a proposed future research topic.

6.2 Addressing research objectives

The research objectives were addressed primarily through inferential statistics (means, standard deviation, Analysis of Variance (ANOVA), t-statistics and p-values) analysis implemented to test the hypotheses, attempting to answer the research questions and relate to the relevant literature.

The next section discusses the four key research objectives and questions that are focusing on the primary and secondary findings as per the results of the empirical tests and integrating them with the literature.

6.2.1 Addressing Research objective one

The first object that this study aimed to achieve was to determine the impact of WIL on the employability of undergraduates by making use of the PCRs and attempting to answering the research question " Is there a significant difference in scores between pre- and post-PCRs (employability) scores for the pre-WIL placed respondents?" it was achieved as follows:

6.2.1.1 Primary Findings

In order to address the answer the research objective and question above, the findings of the t-test paired of the pre- and post-WIL placed respondents' means scores in respect of the five dimensions of the PCRs (employability) in Tables 5.7 to 5.11 in Chapter Five, indicated that there were no significant differences. Furthermore, the t-test paired difference of the pre-post placed respondents indicated that all dimensions' p-values showed no significant differences between the pre- and post-test results of the WIL-placed respondents.

6.2.1.2 Secondary Findings

The current study empirically revealed that WIL has no significant impact on the employability of graduate students. Utilising the PCRs instrument to measure the presence of employability, the findings confirmed that participating in the WIL program has no influence on employability, and that there are no significant differences between WIL-placed and unplaced graduates. The results revealed no significant differences in the PCRs (employability) of the pre- and post WIL-placed students. This is in line with the findings of Brauns' (2013:5) study, indicating that participating in WIL does not necessarily make students more employable, as they lack the knowledge about work and hardly gain any actual work experience during WIL. Jackson (2013a:99), in contrast, did find significant improvement in the employability skills of undergraduates subsequent to their WIL placement. The findings of the current study, however, differ from the literature.

6.2.2 Addressing Research objective two

The second objective was to discover the significant differences with regard to the employability of the pre- and post- test Pre- WIL unplaced undergraduates. The objective is relative to the research question "Is there a significant difference between the pre- and post-PCRs (employability) scores for Pre-WIL unplaced respondents?"

6.2.2.1 Primary Findings

In terms of addressing the second research objective the differences between the mean scores were insignificant between the unplaced respondents' pre- and post-test

results, as displayed in Tables 5.12 to 5.16 in Chapter Five. Moreover, the paired t-test compared the mean difference of the respondents at the 5% level of probability, and confirmed that all the p-values of all five dimensions were found to be above 0.05. Therefore, no significant difference was found between the pre- and post-tests for the unplaced students in terms of the career dimensions.

6.2.2.2 Secondary findings

In view of literature on the above findings Sattler (2011:18) and Kolb (1984:41, cited in McCarthy, 2010:132) too confirmed that learning takes place through experience and through the transformation of knowledge during WIL (Kolb, 1984:41, cited in McCarthy, 2010:132). Moreover, foundation of WIL, known as experiential learning as conceived by Dewey (1938, cited in Kolb and Kolb, 2005:193), is that knowledge is acquired during practical experience. However, in the case of the unplaced respondents, it would not be possible for them to acquire knowledge through work experience. The above opinions validate the results, thus, the significant difference was unfound in the means of the PCRs (employability) dimensions during the pre- and post-test of the unplaced respondents.

6.2.3 Addressing Research objective three

The third objective was to examine the significant differences with regard to the employability of the pre- and post-test unplaced undergraduates. Through answering the research question "Is there a significant difference between the pre- and post-PCRs (employability) scores for the Pre-WIL placed and Pre-WIL unplaced groups-test)?" the objective was address as follows.

6.2.3.1 Primary Findings

The above research question attempts to establish whether the students who are not exposed to WIL but who are eligible for WIL placement possess a difference in PCRs (employability) without being exposed to WIL irrespective of whether they are pre-WIL or pre-unplaced. The statistics test conducted and the results reviewed prove that there is no significant difference between the PCRs (employability) of pre-WIL placed and pre-unplaced undergraduates (according to the pre- and post-test results). These results are reflected in Tables 5.17 and Table 5.18 in Chapter Five, which sets out the paired and t-test Independent samples groups.

6.2.3.2 Secondary Findings

According to Hall, Pascoe & Charity (2017:110), students fundamentally develop employability during WIL experiences, irrespective of whether they were positive or negative. However, little research has investigated the differences in the impact of WIL on the employability of graduates to ascertain the validity of Hall *et al*.'s (2017) argument. Peters, Sattler & Kelland's (2014:6) study compared WIL-placed and unplaced graduates, and found that graduates who had participated in WIL had a lower unemployment rate overall, but not significantly different from the ones who had not participated in WIL. This may support the findings of the current research too, since no significant difference was found between the two groups of respondents. The study acknowledges that there is no significant difference between the PCRs (employability) means scores across all five career dimensions of WIL-placed and unplaced respondents in the pre-study.

6.2.4 Addressing Research objective four

Lastly, the fourth objective was to ascertain whether there was a significant difference between the control groups (unplaced undergraduates who had not been exposed to the WIL intervention) and the experimental group (comprising placed undergraduates who had been exposed to WIL), by surveying them before and after the experimental group's participation in WIL, in terms of the PRCs (employability) between the various groups of students both before and after the WIL intervention. In line with the forth objective the following research questions were addressed: Is there a significant difference between the pre- and post-PCRs (employability) scores for the Post-WIL placed and Post-unplaced respondents?; Is there a significant difference between the pre- and post-PCRs (employability) scores for the WIL-placed and unplaced respondents pre- and post- Study?; Is there a significant difference between the pre- and post-PCR (employability) scores for the WIL-placed and unplaced (Pre-Study) groups versus WIL-placed and unplaced groups (Post -Study)?

6.2.4.1 Primary Findings

The results obtained in response to the above question, and set out in Tables 5.19 and 5.20 in Chapter Five, revealed that there was no significant difference between the post-WIL placed vs unplaced respondents. In addition, the overall PCRs dimensions p-

values are above 0.05 level of probability, thus indicating that there is no significant difference between the placed and unplaced respondents in the post-study.

The results, as presented in Tables 5.21 and 5.22 in Chapter Five, confirmed that there is no significant difference between the two groups in almost all dimensions. Career values was the only dimension with a slight difference in the pre-test mean=5.01 of the WIL-placed group, which was higher than the unplaced group's pre-test mean=4.88, but not significantly higher. Similarly, the post-test of the unplaced group had a mean=4.93, while the WIL-placed mean=4.63. However, the difference in the mean scores of one dimensions was not sufficiently significant to influence the overall test results. The repeated t-test measure group statistics were conducted to compare the significant difference between the PCRs (employability) of WIL-placed and unplaced undergraduate groups (at both pre- and post-test). According to the results depicted in Tables 5.21 and 5.22 (Chapter Five), the pre- and post-test means were almost the same. In addition, p >.05 for all five dimensions, thus indicating an insignificant difference between the placed and unplaced respondents in both tests.

The ANOVA test results indicate that there are no significant differences between two groups' PCRs (employability), with P >.05 probability at 95% confidence. The mean difference between the two groups was displayed in Tables 5.26 and 5.27 (Chapter Five). However, the current research results contradict the research of Fleming *et al.,* (2008:1), which argues that the cooperative education model through WIL assists in developing both generic and specific competencies that can enhance the employability of students.

6.2.4.2 Secondary Findings

Again, these findings are not supported by the literature reviewed in the current study. Employability, as conceived by Fugate *et al*., (2004) includes constructs that are needed to deal effectively with career-related changes. However, the participants in the current study did not manifest any significant differences in their employability. In view of Jackson's (2013a:99) assertion that WIL improves students' employability, one of the objectives of the current research was to establish a significant difference between the WIL-placed and unplaced groups during both the pre- and the post-test, in terms of their PCRs (employability).

Overall, the findings indicated that there were no significant differences between the two groups of students in terms of their employability. The null hypotheses were thus accepted, and it was concluded that WIL does not affect the employability, as suggested by Coetzee's (2008) PCRI model. Moreover, there is no significance difference between the WIL-placed and unplaced undergraduates' means in terms of their employability. The study thus concludes empirically that WIL has no effect on the employability of undergraduates as determine by the PCRI.

6.3 Implications of the study

The implications of the study is outlined below.

6.3.1 Students

The literature reviewed in the current study (in Chapter Two specifically) defined the concept of employability in the framework of undergraduates possessing psycho-social attributes, sets of skills, abilities and attitudes that can enable them to be employable, by referring to Little and ESECT Colleagues (2006), Dacre-Pool & Sewell (2007), Coetzee (2008), Coetzee & Schreuder (2011), Symington (2012) and Dwesini (2017). Moreover, Milton & Jones (2008), WIL ascertain that WIL can help graduates to transition better to the workplace. WIL experience is believed to increase the likelihood of graduates finding employment, as it allows for key attributes to be developed in the workplace (Fleming, Martin & Zinn, 2008:197).

6.3.2 Higher Education

Different views about the WIL concept and its importance in higher education to produce graduates who are ready for the workplace and the labour market were discussed. The literature covered in the study explained how learning takes place through WIL (see Dewey (1938, cited in Kolb & Kolb, 2005:193, and Sattler, 2011:18). Different approaches to WIL were explored and explained according to Winberg *et al*., (2011:16), Reinhard (2006:15) and the National Strategy for Cooperative Education Report (2013). According to Jackson (2013b:3), poor graduate performance in the workplace is related to inadequate skill development in higher education. In addition, Blom (2014:4) explained that WIL enables HEIs to produce graduates who are better suited to the labour market.

Moreover, the research through this extensive literature review provides useful information to NUST (formally known as PoN) and other stakeholders in higher

education about the different approaches to WIL and the importance of mentorship and stakeholder engagement as part of the strategies to enhance the employability of graduates. In addition, Jackson (2013b:10) found that those who spend more time in the workplace appreciate better employability skills, such as creativity, initiative and flexibility, than those who spend less time in terms of realising their career goals. These findings suggested to the current study's researcher that the duration of the WIL placement (three months in this case) might be too short to have an influence on the employability of the students, particularly given the findings that WIL placement did not have a significant influence on the PCRs (employability) of the respondents. In addition, there was no significant difference between WIL-placed and unplaced students pre- vs post-test. Furthermore, it must be borne in mind that the WIL-placed students have not completed their studies yet and so it might have been too early to measure their employability. Lastly, although the study sample proved to be adequate for the current study, the results cannot be generalised to the entire student population at NUST

6.3.3 Industry

The literature pointed out that to enhance graduate employability through WIL requires the establishment of partnerships between universities and industry (Sahama, Yarlagadda, Oloyede & Willet, 2008:1). Harvey (2005:14) explained that employability is more about developing attributes, techniques and experience of life, with an emphasis on developing individual capabilities for future employment. . Furthermore, the importance of functional partnership and stakeholders in WIL were highlighted by Barckhuizen & Schutte (2014:12), Bates (2010:16), Martin and Hughes (2009:26), and mentorship as an intervention to support WIL was identified by Masethe & Masethe (2013:1), Pop & Backhuizen (2010:5) and Gazzard (2011).

6.4 Recommendations

Given the limitations and findings of the current study, the following recommendations are made:

- Future research should be conducted on tracking graduates' employability longitudinally after graduation for those who have participated in WIL and those who have not.
- Strong partnerships between employers and education institution are recommended to enable employers to support students in acquiring the skills needed to enhance their employability (White Paper, 2013:9, cited in Blom, 2014: ix).

- The influence of teaching and learning activities on the employability of students should be investigated, using approaches other than WIL.
- A mixed approach to data collection, including conducting interviews with employers who hosted students during WIL, could be considered to obtain more in-depth information on the impact of WIL on undergraduates.
- A larger study involving all undergraduate programmes with a WIL component embedded in their curriculum can be conducted, and such a study can be used to validate the findings of the current research.

6.5 Proposed Future Research

A longitudinal study investigating the influence of WIL and other curriculum activities on the employability of graduates during studies and after graduation.

6.6 Conclusions

The PCRs are employability elements related to the career development aspects, such as attitudes, motivation to experiment with regard to one's career, flexibility, resilience, and the presence of transferable skills and other skills that could assist graduates to improve their employment possibilities. Career development is a self-driven internal psychological state, which influences the ability to cope or adapt in a work environment (Coetzee, 2014:1). The literature reviewed shows that the pedagogy of employability relates to the teaching and learning of a wide range of knowledge, skills and attributes to support continued learning and career development (Pegg *et al*., 2012:7). In addition, Gaston & Pere, (2014:4) stated that employability can be grounded in the curriculum activities, and thus strengthening career guidance and development activities by NUST (formally known as PoN) could contribute to improving the employability of graduates. As per the current study findings, there was no significant difference found in the PCRs (employability) scores between the WIL-placed and unplaced groups. The aim of this study was to assess the impact of WIL on the employability of undergraduates utilising Coetzee's (2008) PCRs, as measured by the PCRI instrument. The literature on WIL and employability constructs was extensively reviewed along with various instruments that can measure employability.

The methodology used to attain the objectives of the study, as set out in Chapter One, focused on a quantitative research approach. A quasi-experimental research design and a non-probability sampling method were employed to support the research design and sampling. The quantitative approach was identified as the most appropriate for the

study, since it allows the researcher to quantify the data and explore possible relationships between the two variables in the study. A quasi-experimental multi-series quantitative research design was implemented to aid with the comparison between the pre-post WIL-placed (WIL exposed) group and the pre-post unplaced (non-WIL exposed) group.

The population consisted of a group of undergraduates from the School of Management, from which a sample was drawn using non-probability sampling techniques, since it was not possible for the researcher to determine the sample. Data was collected using the WIL checklist and Coetzee's PCRI instrument, where the former was used to ascertain the dependent variable of WIL and the latter was used to evaluate the independent variable of employability. The validity, reliability and relevance of the PCRI were ascertained by means of Cronbach's alpha and factor analysis. Moreover, the descriptive and the inferential statistical methods were utilised to assist in answering the research questions. Lastly, ethical issues were considered, since the study involved human beings, and their consent and permission was obtained.

The empirical study revealed that there were no significant differences between the PCRs of students in the pre-post placed and the pre-post unplaced groups. Based on the study findings it can be confirmed that WIL has no influence on the employability of graduates. Furthermore, it was concluded that there are no differences in the PCRs (employability) of the dimensions in the two groups. However, the literature did claim that WIL can affect employability. Therefore, it is suggested that another study could be conducted in other programmes, where the duration of WIL is more than three months, and also to ascertain whether employability can be developed through other teaching and learning activities, given that WIL is not the only intervention that can influence the employability of undergraduates. Other education activities, including teaching, learning and assessment, also contribute to improving the employability of graduates.

The study is believed to have been a success, in that the effect of WIL on employability through the PCRI instrument was indeed determined. The differences in employability levels between WIL-placed and unplaced respondents were explored by assessing the mean scores. In addition, the significant differences with regard to Psychological Career Resources (employability) between placed and unplaced groups at different time lines were determined.

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APPENDICES

Appendix A

POLYTECHNIC OF NAMIBIA

OFFICE OF THE VICE-RECTOR: ACADEMIC AFFAIRS & RESEARCH

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27 October 2013

Research Coordinator
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Department of Human Resources Management
P.O. Box 652
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Dr. Braam Rust

SUBJECT: LETTER OF CONSENT

Ms Martha Namutuwa a student at the Cape Peninsula University of Technology, Faculty of Business Management presented a letter about a study she will conduct as part of her MTech Programme.

I was sufficiently satisfied with the information she provided about her study, particularly that the intention of this research is academic. Ms Namutuwa informed me that she would conduct a survey and administer questionnaires to students in the School of Management at Polytechnic of Namibia as part of data collection. I was further assured that all research ethics would be observed.

In support of the Polytechnic of Namibia's (in the process of transforming to Namibia University of Science and Technology) staff development, I am approving, on behalf of the institution, Ms Namutuwa's survey in the School of management to complete her study. This letter, therefore, serves to confirm my consent to go ahead to require ethical clearance at the Cape Peninsula University of Technology to proceed with her study on "topic" with special reference to the institution.

With full knowledge of all the foregoing, I wish the researcher a success in carrying out this research.

Yours sincerely,

Andrew Niikondo

Vice-Rector Academic Affairs and Research

POLYTECHNIC OF NAMIBIA
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Appendix B

Questionnaire for undergraduates
Consent form

Dear Respondent

You are kindly requested to participate in a study looking into the impact of Work Integrated Learning (WIL) on employability of undergraduates at a Higher Education Institution in Namibia. I am interested in assessing the impact that WIL has on undergraduate's employability. The pre- WIL experiment will take place and post WIL to the experiment cohort group and to the control group non WIL exposure cohort.

As an undergraduate, you are in a position to know what difference WIL have made to you in terms of employability and if not expose to WIL you will still be able to know your employability level. If you agree to participate you will need to complete a questionnaire. To ensure anonymity of participants, you will not be asked to reveal your identity at all. And you will not be linked to the questionnaire that you have completed in anyway. Although all studies have some degree of risk, the potential in this study is quite minimal. You will not incur any cost in participation of this study.

Your participation is voluntary and if at any time during the study you wish to withdraw your participation, you are free do to so without any penalty.

In case of any concern prior your participation or at any time of the study, please contact me. I thank you for your participation.

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Appendix C

Questionnaire form

Dear Respondent

The impact of Work Integrated Learning (WIL) on employability of undergraduates at a Higher Education Institution in Namibia.

I am a final year M. Tech (HRM) student at the Cape Peninsula University of Technology. I am in the process of conducting research for the purposes of compiling a Thesis in partial fulfilment for the award of a Master of Technology degree in Human Resource Management. My topic is **the impact of Work Integrated Learning (WIL) on employability of graduates at a Higher Education Institution in Namibia.** The objective of the study is to investigate whether work integrated learning has an impact on the employability of the undergraduates in higher education. The studies also aim to determine the variation in employability between the WIL exposed cohort and non- WIL cohort exposed cohort.

In order to reach a valuable conclusion, I would like input from the key stakeholders (undergraduates) from the School of Management Sciences who are eligible for WIL, those who are exposed to WIL and those who are not. Kindly, answer the following questions that will enable me to understand the impact, variation and correlation between WIL and employability of undergraduates at the higher education institution.

I wish to assure you that whatever information you provide me with will be treated confidential and will not be revealed to any unauthorised parties.

I thank you.

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Appendix D

Revision 3 (2011)

BIOGRAPHICAL INFORMATION

1. Name: _____

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2. Ethnic group:

	African	
	Coloured	
	Indian	
	White	
	Other	

3. Gender:

	Male	
	Female	

4. Age:

	25 years and younger	
	26-40 years	
	41-55 years	
	56 years and older	

5. Marital status:

	Single	
	Married	
	Widowed	
	Separated/Divorced	

7. Job level:

	Senior /executive management
	Middle management
	First level supervision
	Staff
	Independent contractor

6. Occupational field of expertise (e.g. accounting; finance; human resources; engineering; IT, etc): _____

7. Current further studies enrolled for:----------

8. Highest level of qualification:

	Post graduate (Diploma/ Honours, Masters, Doctoral)
	Third year level degree/diploma
	Second year level degree
	First year level degree
	Matric

8. Employment status:

	Unemployed
	Part-time employed
	Full-time employed
	Self-employed
	Other

PSYCHOLOGICAL CAREER RESOURCES INVENTORY

Instructions

- The purpose of the following questions is to determine your overall psychological career resources profile.
- Please respond to each of the following questions by marking the number that indicates your answer.
- Please try to answer every question.

Never 1	Rarely 2	Sometimes 3	Often 4	Almost always 5	Always 6

	Statement	Never	Rarely	Sometimes	Often	Almost always	Always	For office use only
1	I would prefer a career in which I could develop my skills and knowledge in depth	1	2	3	4	5	6	
2	I will feel successful in my career only if I can develop my specialist skills to a very high level of competence and expertise	1	2	3	4	5	6	
3	I would prefer a career that requires me to	1	2	3	4	5	6	

	have special knowledge and skills to perform well							
4	I prefer to have a career that will give me a sense of security and stability	1	2	3	4	5	6	
5	I prefer a career where I could stay in my chosen field and move up to higher levels of authority and responsibility	1	2	3	4	5	6	
6	I will feel successful in my career only if I become a senior manager in some organisation	1	2	3	4	5	6	
7	I would like to achieve a high level managerial position in an organisation	1	2	3	4	5	6	
8	I will feel satisfied in my career when I have the authority to make important decisions	1	2	3	4	5	6	
9	I would like to have people	1	2	3	4	5	6	

	reporting directly to me							
10	I would prefer a career that offer me much variety and a constant flow of new and unexpected things to do	1	2	3	4	5	6	
11	I would prefer a career that allow me to be creative and to work on job tasks that no one else in the group or organisation has worked on before	1	2	3	4	5	6	
12	I would like a career that allows me to work on a variety of challenging tasks that will require me to use a wide range of skills and knowledge	1	2	3	4	5	6	
13	I like opportunities to invent new ideas or things	1	2	3	4	5	6	
14	I would prefer a career in which I have the independence to pick and choose	1	2	3	4	5	6	

	my job tasks and projects and to get things done wherever and whenever I choose							
15	I prefer the freedom to make my own decisions, set my own schedule and hours, and establish my own priorities	1	2	3	4	5	6	
16	I will be most fulfilled in my career when I have been able to build something that is entirely the result of my own ideas and efforts	1	2	3	4	5	6	
17	I prefer a career where I would be able to move out of it into new and very different jobs whenever I feel the need to move on to something new	1	2	3	4	5	6	
18	I like to engage in further growth and learning opportunities	1	2	3	4	5	6	

19	I like to get involved in projects and tasks which help me to develop new knowledge and skills	1	2	3	4	5	6	
20	I like to be knowledgeable and skilled in what I do	1	2	3	4	5	6	
21	I like to have influence and authority over others	1	2	3	4	5	6	
22	I like to have the power to make important things happen	1	2	3	4	5	6	
23	I like opportunities to do important things without being constrained by rules and boundaries	1	2	3	4	5	6	
24	I am good at using my mind to visualize something that I want to create	1	2	3	4	5	6	
25	I am good at researching the information and ideas I need to obtain my goals	1	2	3	4	5	6	

26	I am good at putting my ideas into practical plans and making it work for me	1	2	3	4	5	6	
27	I am good at analysing situations and data to create new solutions	1	2	3	4	5	6	
28	I can discipline myself to keep my composure and get the most out of myself	1	2	3	4	5	6	
29	I make the most of my good qualities to achieve success in what I do	1	2	3	4	5	6	
30	I am good at working with people and helping them identify and overcome problems	1	2	3	4	5	6	
31	I prefer to give my best in any job task or anything I am responsible for	1	2	3	4	5	6	
32	I like to help others grow and develop	1	2	3	4	5	6	

33	I am deeply aware of my and others' spiritual side, that we all have a life purpose and that all life forms are sacred	1	2	3	4	5	6	
34	I trust in the purpose of my life, that there is a reason for my being here in this world	1	2	3	4	5	6	
35	I have a strong desire to fulfil my dreams for the career I choose to pursue	1	2	3	4	5	6	
36	I prefer a career which allow me to contribute to the greater good of others	1	2	3	4	5	6	
37	I feel confident in my ability to achieve my goals	1	2	3	4	5	6	
38	I am clear about what I would like to become career wise	1	2	3	4	5	6	
39	I know where and how to find the help and support I need to achieve my career goals	1	2	3	4	5	6	

40	It is easy for me to make up my mind about how and where to find a new job opportunity	1	2	3	4	5	6	
41	I am willing to explore new career opportunities	1	2	3	4	5	6	
42	I am willing to take the risk to go out and test new career experiences	1	2	3	4	5	6	
43	I prefer having the option to change my current occupation or career whenever I desire so	1	2	3	4	5	6	
44	I like myself and generally see myself as lovable	1	2	3	4	5	6	
45	I accept compliments easily	1	2	3	4	5	6	
46	I am in good physical shape and have plenty of energy	1	2	3	4	5	6	
48	I am optimistic about my future	1	2	3	4	5	6	

49	I have the courage to deal with things and situations that I am afraid of	1	2	3	4	5	6	
50	I have the courage to handle my misfortunes and failures	1	2	3	4	5	6	
51	I can laugh at myself when I make a mistake	1	2	3	4	5	6	
52	It is easy for me to adapt to new things and situations in my life	1	2	3	4	5	6	
53	My values and beliefs help me to meet daily challenges	1	2	3	4	5	6	
54	I accept the mysteries of life and death	1	2	3	4	5	6	
55	I express my feelings and/or needs to my close friends	1	2	3	4	5	6	
56	I can show when I am sad or angry	1	2	3	4	5	6	
57	I find it easy to express my feelings and/or	1	2	3	4	5	6	

	needs clearly and directly							
58	I admit when I am afraid of something	1	2	3	4	5	6	
59	I can identify my emotions	1	2	3	4	5	6	
60	Other people like me	1	2	3	4	5	6	
61	I get along well with others	1	2	3	4	5	6	
62	I show others that I care about them	1	2	3	4	5	6	
63	I find it easy to connect with others	1	2	3	4	5	6	
64	I find it easy to ask others for, or accept their help or support	1	2	3	4	5	6	