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Workplace Learning: an empirical evaluation of graduate development programmes for Black engineers in South Africa

by

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A research dissertation submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, Johannesburg, in fulfilment of the requirements for award of the degree of Master of Commerce (Human Resource Management) in the School of Economic and Business Sciences.



Year of submission: 2017

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Declaration

I, Sibongile Magwagwa, declare that the entire dissertation was completed by me I further declare that this work has not been submitted before to any institution for the purposes of acquiring any other academic qualification.

I further declare that:

- ❑ I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- ❑ I have followed the required conventions in referencing the thoughts and ideas of others.
- ❑ I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief or proof that this thesis is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

_____ _____

S Magwagwa Date

Acknowledgements

My heartfelt gratitude goes to the following:

Firstly, to Almighty God for the strength and tenacity to tackle both my studies and work demands: “But those who hope in the Lord will renew their strength. They will soar on wings like eagles; they will run and not grow weary, they will walk and not be faint” (Isaiah 40:31).

My dear mother, Lily Makamole, who has always supported me to achieve my career and academic goals.

MTU South Africa and its leadership team for investing in both my academic and professional development. A special thank you to Elaine Simons, Jaco Erasmus, and James Arendse for always accommodating my studies.

Professor Olorunjuwom Samuel of the School of Economic and Business Sciences at the Witwatersrand University for his solid mentorship and guidance throughout my research.

Lastly, I would like to thank the research participants who took time off from their busy schedules to willingly provide me with information.

Dedication

To Lily Makamole;

My lovely mother and best friend; without whom none of my successes would have been possible.

I know no greater love than the love I have received from God through you.

You have been, and remain, my anchor.

Abstract

The purpose and motivation of this research is to evaluate the effectiveness of graduate development programmes and workplace learning for African, Coloured and Indian engineering graduates. The concept of learning has long been associated with classroom-like activities. Its use in the context of work has, however, sparked an interest for many scholars as will be deliberated in this study. Research on the transition of graduates into the world of work indicates that a gap exists between the competencies required at work and the skills acquired by graduates through university. Therefore, this necessitates the need to examine workplace learning and graduate development programmes as tools that can be utilised to facilitate the transition process of new graduates to the workplace.

This study has employed a mixed methods research design by incorporating both qualitative and quantitative research approaches. The researcher conducted an evaluation of graduate development programmes by using a sample size of 10 qualitative study participants and 130 quantitative study participants from five different companies representing different industries. The sample was gathered through the use of non-probability sampling procedure which involved sampling techniques such as purposive, snowball and convenience sampling. The research participants included graduates who partake in graduate development programmes, as well as their mentors and senior managers. Research data was gathered by means of semi-structured interviews and a questionnaire. The discussion in this study relates to the nature of graduate development programmes at different organisations and how these programmes drive workplace learning. Content from the semi-structured interviews were thematically analysed in order to provide structure and logic to the data. The research findings suggest that graduate development programmes promote workplace learning and that the effectiveness of these programmes is dependent on coaching and mentoring relationships which have an effect on the career progression of graduates, and eventually their retention in their respective organisations. The study has addressed the quantitative part of the research by employing descriptive and inferential statistical analysis. The content form of the questionnaires indicate that there is positive correlation between research variables as hypothesised in the study. This study is of value to organisations that run graduate development programmes and wish to improve on their effectiveness and have an understanding of how to develop and retain their graduates.

Table of Contents

Declaration……..ii

Acknowledgements ……iii

Dedication ……..iv

Abstract……v

List of Tables

..... ……..xi

List of Figures……xii

List of Appendices.

..... ……xiii

List of Acronyms ……xiv

CHAPTER ONE……1

INTRODUCTION, PROBLEM STATEMENT AND OBJECTIVESOF THE STUDY……....1

1. Introduction……..1

1.1 Problem statement……3

1.2 Background of the study……..4

1.3 Purpose of the study…….....6

1.4 Objectives of the study…….....7

1.5 Hypothesis……8

1.6 Significance of the study.....9

1.7 Delineation of the research 10

1.8 Outline of the study.....10

1.9 Summary of chapter..... 11

CHAPTER TWO…… 12

LITERATURE REVIEW AND THEORETICAL FRAMEWORK……..12

2. Introduction……12

2.1 Graduate development programmes 12

2.1.1 Policy and legislative framework.....15

2.1.2 Strategic recruitment of engineering graduates.....15

2.1.3 Transition from education to practice 17

2.1.4 The generational dimension of workplace composition 18

2.2 Workplaces as learning environments 19

2.2.1 Learning paradigms.....21

2.2.2 Developing workplace learning transformation.....21

2.2.3 Environmental and attitudinal factors influencing workplace learning 23

2.2.4 Effectiveness of workplaces as learning and development environments 24
2.2.5 Human resource development and the learning organisation 25
2.3 Coaching and mentoring 2719
2.3.1 Informal and formal coaching 30
2.3.2 Characteristics of the coaching relationship 30
2.3.3 Benefits of the coaching relationship 30
2.3.4 Mentoring relationships 30
2.3.5 Mentoring models 31
2.3.6 Characteristics of the mentoring relationship 32
2.3.7 Formal and informal mentoring relationships 33
2.3.8 Benefits and challenges of mentoring relationships 34
2.3.9 The role of race and gender on coaching and mentoring relationships 35
2.4 Gender participation and career progression 38
2.4.1 Gendered division of labour 39
2.4.2 The impact of race and gender on career advancement 40
2.4.3 Overcoming gender-based career advancement barriers 43
2.4.4 Policy and legislative implications 44
2.4.5 Accelerating the career progression of black engineering graduates 44
2.5 Employee retention 45
2.5.1 Driving employee retention through job satisfaction 47
2.5.2 Graduates' motivation to change jobs 49
2.5.3 Retention of engineers in South Africa 50
2.5.4 The effects of generational differences on employee retention 52
2.5.5 Strategies to retain generation Y graduates 55
2.6 Theoretical framework 57
2.6.1 Social Learning theory 57
2.6.2 Motivation theory 58
2.6.2.1 Content theories 58
2.6.2.2 Process theories 61
2. 7 Summary of chapter 62
CHAPTER THREE 63
RESEARCH DESIGN AND METHODOLOGY 63
3. Introduction 63

3.1 Research methodology 63
3.2 Research paradigm 64
3.2 Research design 65
3.2.1 Justification for the choice of research strategy/approach 65
3.3 Mixed methods research 66
3.4 Priority 67
3.5 Pilot Study 67
3.6 Population 68
3.6.1 Qualitative study population 68
3.6.2 Quantitative study population 69
3.8 Sampling Design and Procedure 69
3.8.1 Sampling frame 69
3.8.2 Research sample 69
3.8.2.1 Qualitative study sample 69
3.8.2.2 Quantitative study sample 70
3.8.2.3 Sampling procedure 70
3.9.3 Measurement instruments for selected constructs 72
3.9.3.1 Generic competencies for graduate engineers 73
3.9.3.2 Workplace learning 74
3.9.3.3 Employee retention 74
3.9 Validity and Reliability 75
3.9.1 Validity 75
3.9.1.1 Qualitative validity 75
3.9.1.2 Quantitative validity 76
3.9.2 Reliability 76
3.10 Data collection 77
3.10.1 Primary data 77
3.10.2 Secondary data 77
3.11 Data Analysis 77
3.11.1 Qualitative study 77
3.11.2 Quantitative study 78
3.12 Ethical considerations 78
3.13 Summary of chapter 78

CHAPTER FOUR **80**
DATA ANALYSIS **80**
4. Introduction 80
4.1 Qualitative data analysis 80
4.1.1 Demographics 80
4.1.2 Results 81
4.2 Quantitative data analysis 93
4.2.1 Demographics 93
4.2.2 Reliability Analysis 95
4.2.3 Test for Normality 96
4.2.4 Correlations 97
4.2.5 Regression Analysis 99
4.3 Summary of chapter 101
CHAPTER FIVE **103**
DISCUSSION OF FINDINGS **103**
5. Introduction 103
5.1. Qualitative Data Analysis 103
5.1.2 Theme discussion 104
5.2 Quantitative findings discussion 112
5.3 Hypothesis discussion 114
5.3.1 Hypothesis 1 discussion 114
5.3.2 Hypothesis 2 discussion 115
5.3.3 Hypothesis 3 discussion 115
5.3.4 Hypothesis 4 discussion 115
5.4 Triangulation of quantitative and qualitative findings 116
5.5 Summary of chapter 119
CHAPTER SIX **120**
CONCLUSIONS, LIMITATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE RESEARCH **120**
6. Introduction 120
6.1 Conclusion 120
6.2 Limitations of the study 121
6.3 Recommendations 122
6.4 Suggestions for future research 123

6.5 Summary of chapter 123
References **124**

List of Tables

Table 2.1: Birthdate Parameters 53
Table 2.2: Birthdate Parameters for Different Countries 53
Table 4.1: Distribution by industry type, race and gender 80
Table 4.2: Relaibility of Measuring Scales 96
Table 4.3: Test for Normality 96
Table 4.4: Relationship Between Workplace Learning and Graduate Development Programmes 98
Table 4.5: Relationship Between Workplace Learning and Coaching and Mentoring 98
Table 4.6: Relationship Between Workplace Learning and Career Progression 99
Table 4.7: Relationship Between Workplace Learning and Employee Retention 99
Table 4.8: Regression on Graduate Development Programes and Workplace Learning..... 100
Table 4.9: Regression on Coaching and Mentoring and Workplace Learning..... 100
Table 4.10:Regression on Career Progression and Workplace Learning..... 101
Table 4.11:Regression and Workplace Learning 101

List of Figures

Figure 1.1:Conceptual model of study 8
Figure 4.1: Gender distribution by percentage 93
Figure 4.2: Racial distribution by percentage 93
Figure 4.3: Age group distribution by percentage 94
Figure 4.4: Industry distribution by percentage 94
Figure 4.5: Length of in service in years by percentage 95
Figure 4.6: Triangulation of quantitative and qualitative findings 117

List of Appendices

Appendix 1: Participation Appendix 1: Participation Letter 150
Appendix 2: Questionnaire 151
Appendix 3: Interview Guide 152
Appendix 4: Consent Form 153
Appendix 5: HREC Approval 154

List of Acronyms

AA (Affirmative Action)

BBBEEA (Broad-based Black Economic Empowerment Act)

CSI (Corporate Social Investment)

CET (Cognitive Evaluation Theory)

CSS (Central Statistics Survey)

DoL (Department of Labour)

DTI (Department of Trade and Industry)

ECSA (Engineering Council of South Africa)

EEA (Employment Equity Act)

HRD (Human Resource Development)

HMT (Human Motivation Theory)

ICA (Industrial Conciliation Act)

ILM (Institute of Leadership and Management)

ILO (International Labour Organisation)

JIPSA (Joint Initiative on Priority Skills Acquisition)

NSBE (National Society of Black Engineers)

SAAC (South African Association of Consulting Engineers)

SAGEA (South African Graduate Employer Association)

SDA (Skills Development Act)

SDLA (Skills Development Levies Act)

SHRM (Society for Human Resource Management)

PPMC (Pearson Product Moment Correlation)

CHAPTER ONE

INTRODUCTION, PROBLEM STATEMENT AND OBJECTIVES OF THE STUDY

1. Introduction

Learning as a concept has always been regarded as a process that takes place in formal educational environments, therefore contextualising it in the workplace is something new (Tynjälä, 2008). However, many organisations have over the years put much emphasis on introducing learning interventions at work (Matthews, 2009). The rapid organisational change, coupled with increasing competition for talent, has seen many organisations rethinking new ways of introducing learning strategies in order to increase their talent pipeline (Matthews, 2009). Moreover, organisations have also become aware that for them to compete effectively in the global market, they need to work towards closing any development gaps that may exist in their teams (Matthews, 2009). According to Bratton, Mills & Sawchuk (2003), workplace learning may be viewed as a series of formal, non-formal, self-directed, and understood informal activities. It serves to open our inquisitiveness and understanding of work and learning. This study focuses on the workplace learning experiences of engineering graduate trainees who partake in graduate development programmes. The study also focuses on how coaching and mentoring drives their learning experiences and therefore increases their chances for career progression within organisations. The study also looks at how the learning interventions presented by graduate development programmes facilitate graduates' retention with their respective organisations.

According to Bratton *et al*., (2003), both organisations and employees have realised that it is important to continuously engage in learning. Moreover, organisations view learning at work as a strategy to improve employee competence and drive career progression thereby ensuring employee retention (Bratton *et al*., 2003). Essentially, there is an expected return on investment for organisations to drive learning and development interventions. Similarly, there is also an expectation from employees to be better positioned for career progression opportunities as a result of undergoing a series of learning and development programmes (Garrick, 1998; Boud

& Garrick, 1999; Bratton *et al.*, 2003). One can thus put it forward that promoting workplace learning results in benefits for both employees and the organisations that they work for.

According to Fenwick (2001), workplace learning has become an essential element for human resource development scholars. This discourse has become so popular that it has sparked an interest among scholars from various fields (Bedder, 1999; Billett, 1995, 2000, 2001; Martin, Maytham, Case & Fraser, 2005; Chandrakassie, 2008; Korte, Sheppard & Jordan, 2008; Tynjälä, 2008). A number of scholars across different disciplines now share a similar inquiry around the changing patterns of work and how these changes affect organisations and employees (Fenwick, 2001; Chandrakassie, 2008; Tynjälä, 2008)). Fenwick (2001) argues that there are particularly three standpoints as far as workplace learning is concerned. One is that an understanding of how learning takes place at work has the potential of providing insights into the way work is organised, and this could potentially provide focus on how the educational process is structured in formal educational institutions. Another view is that workplace learning is important in coordinating schools with workplace needs. The third view is that focus on vocational learning is unwarranted as learning may only occur in formalised learning institutions (Fenwick, 2001). Nonetheless, there seems to be consensus that in order to promote a productive workplace, a learning environment should be in place.

Fenwick (2001) indicates that learning in the workplace has moved to become a central concern of both institutions of higher learning as well as businesses, and is no longer a narrow focus for vocational specialists alone. There is now an interdependence linking the learning that takes place at work and that taking place in formal educational institutions, because learning has moved from being something which prepares people for the world of work to being the lifeblood which sustains them (Fenwick, 2001). The world of work has become so competitive that it becomes futile if people do not continue to learn more in order to develop themselves. This is further compounded by the fact that companies are always on the lookout for people who are better and more qualified (Fenwick, 2001). Taking into account that organisations now seem to view workplace learning as a crucial element in pursuing the development of their employees, it is important to provide a detailed examination of the workplace learning concept.

Moreover, it is argued that a gap exists between the competencies required by organisations and the skills which graduates receive at university level (Tynjälä, 2008). This further

necessitates the need to examine workplace learning activities as a way to integrate new graduates to the workplace. It can thus be said that graduate development programmes play a pivotal role as far as workplace learning is concerned because of their ability to allow organisations to develop their own talent and drive learning organisations. This is particularly pertinent for South Africa where there are various workplace laws that govern the working relationship and strive to ensure that designated groups enjoy the benefits of training and development, not only in learning institutions but also in the workplace (Phaahla, 2000).

1.1 Problem statement

After many years of university study, newly-qualified engineering graduates leave institutions of higher learning as professionals who are looking forward to joining the world of work and applying their acquired skills to real world problems (Korte *et al.,* 2008). In most cases, a socialisation process facilitates the transition of graduates from university to work and this normally involves various activities aimed at providing knowledge on company values and performance expectations for the graduate (Korte *et al*., 2008). Korte *et al.,* (2008), argue that although the engineering skills acquired at university are important in preparing engineering graduates for work, organisations also have the responsibility of ensuring that graduates are equipped with industry-relevant competencies. Thus the significance of any development programme targeted at graduates lies in its ability to ensure that graduates are integrated into the workplace. Moreover, Beder (1999) argues that there is a new dynamic in the profession of engineering in that employers are no longer impressed with just the technical abilities of engineers, but also look out for the fully developed professional who is self-aware of and possesses the social skills which involve team work, effective communication, negotiation and other "soft skills".

According to Martin *et al.,* (2005), the engineering curriculum has evolved over the years. The new curriculum focuses on equipping graduates with the appropriate industry-relevant skills which often involve giving graduates workplace exposure before awarding them with formal qualifications (Martin *et al.,* 2005). What Martin *et al.,* (2005) argue is that the new engineering curriculum has come about because of a need for educational institutions to train graduates in skills that are required by the industry. According to these scholars, it is also important to re-examine if the changes in curriculum do indeed serve to ensure that the skills produced at university meet the demands of industry (Martin *et al.,* 2005). The current study therefore

focuses on how Black graduate engineers further accumulate workplace skills through workplace learning interventions which are facilitated by graduate development programmes. Indeed, engineering skills are well worth the focus considering their classification as scarce and critical skills for the growth and development of the South African economy (du Toit & Roodt, 2008). Moreover, in the assessment of skills shortages in South Africa, Daniels (2007) indicates that there is a general shortage of engineers from previously disadvantaged backgrounds who comprise the majority of the South African population, and these groups seem to be people who are in high demand.

Research on graduate development in South Africa has mainly focused on the satisfaction levels of new graduates with particular focus on the Generation Y discourse which these employees bring to the workplace (Arnold & Mackenzie, 1999; Groenewald, 2003; McDermott, Mangan & O'Connor, 2006; Chandrakassie, 2008; Ebrahim, 2008; Codrington & Grant-Marshall, 2008; Gruber, 2008; Aiken, 2010; Smith, 2010). Little research has thus been done on how development programmes contribute to the deliberate development of Black engineering professionals, an area which this research addresses. This study therefore seeks to close the knowledge gap and contribute to the existing body of knowledge on human resource development by providing insight into the return on investment of workplaces learning interventions for both graduates and organisations and seeks to demonstrate that workplace learning is not only a benefit enjoyed by graduates, but should also be treated by organisations as an imperative business priority that drives talent management and business continuity.

1.2 Background of the study

In order to provide a theoretical background of workplaces in South Africa, this study has taken into account the narrations presented in *Beyond the Apartheid Workplace Regime*. This work is an edited book by Webster & Von Holdt (2005) which focuses on the social, political and economic transition in South Africa. In this book, the authors present 17 case studies that focus on the workplace during apartheid, as characterised by discrimination and segregation based on race. In essence, inherent in the apartheid workplace regime was the racial distribution of jobs, salaries and skills (Phakathi, 2012). The case studies in this book seek to show that while companies are moving beyond racial segregation, some are slow in transforming. A consideration of this body of work is important when focusing on South African workplaces

because the historical composition of workplaces is related to the wider political context (Webster & Von Holdt, 2005).

The discriminatory practices of apartheid affected all aspects of the South African society. South African workplaces were particularly affected by this racist culture because people of all racial backgrounds gathered at work every day (Webster, 2013). There was a division of labour along racial lines coupled with the segregation of workplace facilities and a structure of power which was racially defined (Webster, 2013). State laws such as the Industrial Conciliation Act of 1924 legitimised the segregation and discrimination which was inherent in the apartheid era (Webster, 2013). The period between 1970 and shortly before 1994 is referred to as a "period of high apartheid" (Padayachee, 2013). During the period of high apartheid, the division of labour on racial lines was the defining feature of the apartheid workplace regime. In essence, all the low-level jobs were reserved for Black employees while the high-level and high-paying jobs were occupied by white employees (Padayachee, 2013). Black employees were later promoted to semi-skilled positions; however, all the supervisory and management positions were strictly reserved for whites (Dupper & Garbers, 2009).

Nonetheless, changes in the labour market forced organisations to move Blacks into more skilled positions (Dupper & Garbers, 2009). The reservation of jobs along racial lines was "maintained by workplace convention, by the power of white workers in the workplace" (Webster & Von Holdt, 2005:48). The case studies in this literature show fluidity and complexity in the transition of companies because they illustrate the differences existing in South African companies regarding race relations. These case studies are helpful because they indicate that although operating in the same political context, companies in South Africa still have different racial dimensions. This work is important because it provides an overview of workplaces during the apartheid era which informs an understanding of present day workplaces. This background therefore allows the research to contribute to an existing body of knowledge pertaining to race relations within workplaces and particularly how these relations affect the professional development of Black engineers.

Notwithstanding the importance placed on engineering as a profession, statistics seem to indicate an area of concern as far as the development of engineering in South Africa is concerned. South African research reports indicate that there are approximately 34 000

registered professionals in the Engineering Council of South Africa (ECSA) database of which more than 14 800 are registered professional engineers (engineering professionals with a degree from a recognised university). This total number is reflective of only 3% females whilst Blacks comprise less than 12% (ECSA, 2014). Nonetheless, Engineering News (2013) reported that before 1994, black people did not have formal registration as engineers. However, this situation has since changed because there has been an increasing number comprising approximately 60% of Black students who have been registered in both diploma and degree qualifications (Engineering News, 2013). Although ECSA registration numbers for Black registered engineering professionals are still small, considering that Blacks constitute the majority population in South Africa, they indicate that increased enrolments of these graduates in the engineering field may well lead to increased numbers of registered professionals. This increase in the number of engineering professionals is also evident in the workplace, where an increasing number of Black candidate engineers are enrolled in graduate development programmes (Engineering News, 2013).

A publication by the National Society of Black Engineers (NSBE, 2014) further alluded to the fact that when a country has a high engineer-to-population ratio, it may experience high economic growth. A high engineer-to-population ratio also drives successful infrastructure development. However, comparatively speaking, South Africa's engineer to population ratio is lower when compared to other countries (NSBE, 2014). For instance, South Africa's ratio is 1:314 while China has a 1:130 ratio; Japan has a ratio of 1:166 and Brazil has a ratio of 1:277 (NSBE, 2014). The apartheid past is often associated with South Africa's ratio and as a result of this, designated groups like Africans, Coloureds and Indians often have lower numbers of engineers in relation to the size of their population numbers (NSBE, 2014). It therefore becomes apparent that a focus on the development of Black engineers will add to the already existing discourse on engineering skills in South Africa, particularly as this seems to be an area of concern in driving sustainable economic growth.

1.3 Purpose of the study

This study seeks to examine graduate development programmes in various organisations and investigates how they promote workplace learning for Black engineers. This study has adopted the "Black" definition as outlined in the Broad-based Black Economic Empowerment (BBBEE) Act 53 of 2003. The BBBEE Act states the following: "Black" in the South African

context means "African, Coloured or Indian persons who are natural persons and are citizens of the Republic of South Africa by birth or descent; or are citizens of the Republic of South Africa by naturalisation before the commencement date of the Constitution of the Republic of South Africa Act of 1993 or became citizens of the Republic of South Africa after the commencement date of the Constitution of the Republic of South Africa Act of 1993, but who, but for the Apartheid policy that had been in place prior to that date, would have been entitled to acquire citizenship by naturalisation prior to that date" (Department of Trade and Industry, 2011:3).

The research has investigated the extent to which the programmes are effective in the development of Black engineering professionals. This was done by investigating the nature of the programmes put in place to train engineers, the perceptions of engineering graduates on retention levels after completion of the programmes, as well as perceptions on their upward mobility within their respective organisations. The research has also explored how mentor-mentee relations and attitudes affect the effectiveness of the programmes, as well as how race and gender relations play out in the construction of everyday relations between mentees and their mentors.

1.4 Objectives of the study

The key quantitative objectives of the study were to:

- Determine the relationship between Graduate Development Programmes and workplace;
- Evaluate the relationship between workplace learning and coaching and mentoring relationships;
- Determine the relationship between workplace learning and career progression;
- Assess the relationship between workplace learning and employee retention.

The key qualitative objectives of the study were to:

- Identify how graduate development programmes promote workplace learning;
- Ascertain the role of coaching and mentoring on workplace learning;

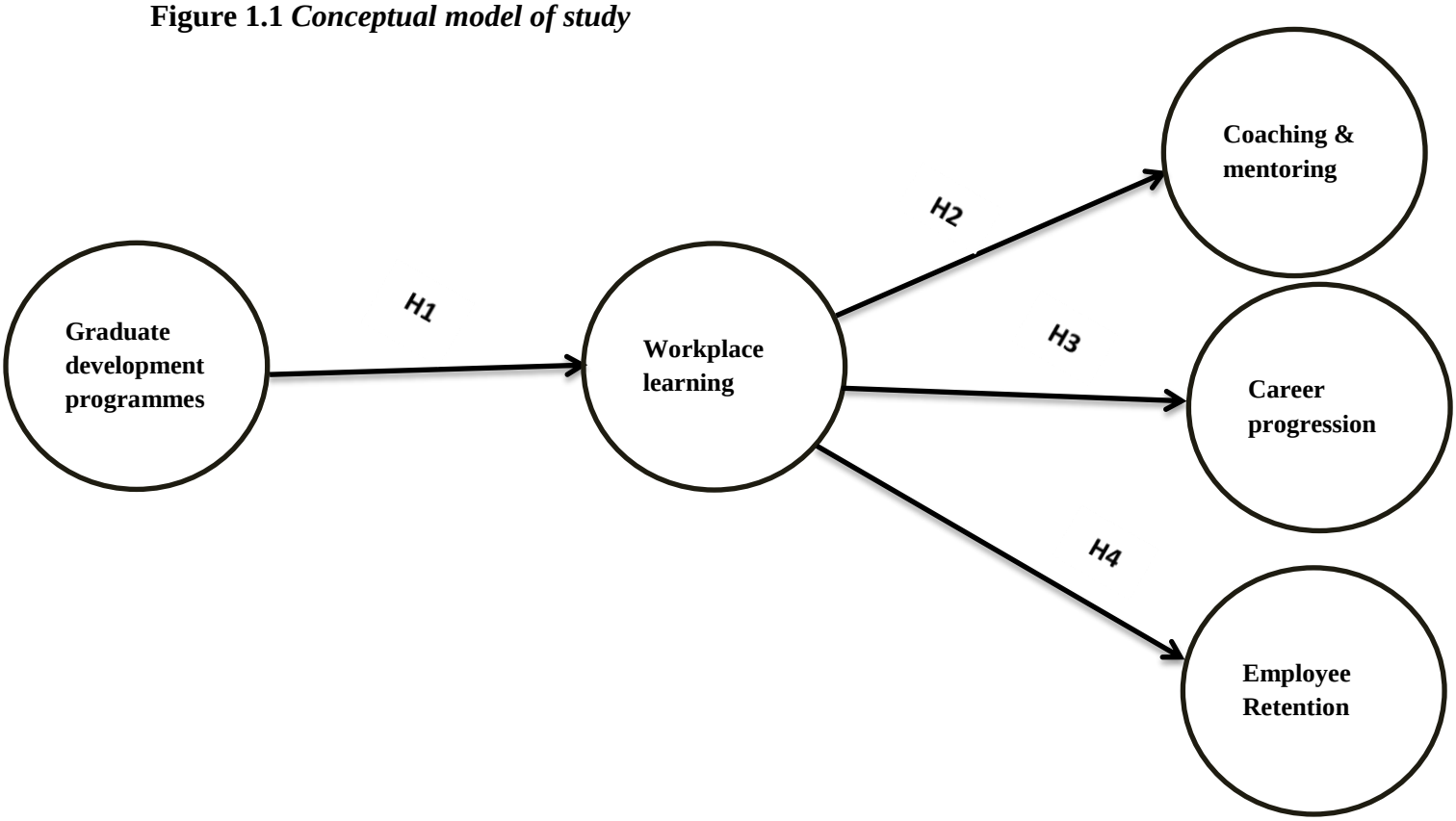
- Investigate how career progression is facilitated by workplace learning;

- Explore how workplace learning drives employee retention.

1.5 Hypotheses

- H_1: There is a positive relationship between graduate development programmes and workplace learning.
- H_2: There is a positive relationship between workplace learning and coaching and mentoring.
- H_3: There is a positive relationship between workplace learning and career progression.
- H_4: There is a positive relationship between workplace learning and employee retention.

Figure 1.1 ***Conceptual model of study***



1.6 Significance of the study

Employees and employers are both required to respond to the changing nature of work. This has led to a need for both parties to understand the required skills and competencies that can set them up for success in this highly-competitive global market (Barber, 1998). This, therefore, has placed considerable focus on the importance of continuous learning in the workplace (Barber, 1998). The discourse on workplace learning has been an area of interest for many scholars, particularly because of the advent of globalisation which requires organisations to prioritise their human capital investments in order to gain competitive advantage (Alvesson, 1993; Billett, 1995, 2000, 2001; Senge, 2014). Essentially, the significance of this study lies in its ability to provide insight into how South Africa, a country with a history of great disparities because of the apartheid legacy, can leverage on workplace learning interventions to provide a rich pipeline of competent workforce employees.

Indeed, a competent workforce has been argued by many to be the driving force behind increased productivity and eminent economic growth (Frank, 2004; Mansfield, 2004; Mokyr, 2005; Winterton, 2007). This study is also significant in that it seeks to add to the existing body of knowledge on the paradox which exists as far as workplace learning interventions are concerned. This paradox is evident in current literature which focuses on how the success of workplace learning has the potential to bear great rewards and may benefit both organisations and individuals as well as how the contrary may arise if they do not deliver what they are intended for, and therefore may further perpetuate the historical and current inequalities existing in South African workplaces (Ranis, Steward & Ramarez, 2000; Kraak, 2005; Kraak & Press, 2008; Senge, 2014, 2015).

The study therefore seeks to contribute to a new dynamic of the "post-apartheid workplace regime", with particular reference to learning and development for Black engineering professionals. Furthermore, focusing on the development of the engineering profession will contribute to the human resource development discourse and provide insight into their professional development, career progression and retention within their respective organisations after completion of the development programmes. Exploring the engineering profession through an academic research of this nature could potentially stimulate and also contribute to the national discourse on critical scarce skills and economic development (Daniels, 2007; Kraak, 2008; Breier & Erasmus, 2009; Rasool & Botha, 2011).

1.7 Delineation of the research

This study had a specific focus on African, Coloured and Indian engineering graduates based within the Johannesburg area only, for the quantitative part of the research. The scope of the study did not include any other racial groups. The mentors and senior managers who formed part of the qualitative aspect of the study were also drawn from a population based in the Johannesburg area only, and no distinction in race was used for this category of respondents.

1.8 Outline of the study

- The order of discussion in Chapter One started with the introduction, followed by the research problem, background of the study, research objectives, hypothesis, purpose of the study, as well as the significance of the study. Previous and current literature on workplace learning and graduate development programmes were reviewed in order to justify the need and importance of this research study.

- In Chapter Two each variable selected for the study is conceptualised. In this chapter, the researcher deliberates on existing literature and its usefulness for this study and how it supports the existing relationships inherent in research constructs. The last part of the literature review chapter focuses on the theoretical framework adopted for this study.

- Chapter Three presents a discussion of the research methodology applied in this study. The research paradigm, research design, priority given to research approaches, population, sampling design and procedure, data collection procedure and the methods used for data analysing are all discussed this chapter.

- Chapter Four focuses on research findings. Results from the semi-structured interviews are presented and thematic analysis is employed in order to provide a coherent report of results using the common themes. Results from the quantitative study are presented statistically in order to provide logic to the study.

- Chapter Five re-focuses on the research questions together with the research objectives. A discussion on whether the study has met its research objectives is presented as well as a discussion on whether the research findings support the formulated hypothesis or not. The

chapter also gives an account of the contribution of the study to academic research.

- Chapter Six provides a conclusion of the study. The researcher also draws from research findings to provide recommendations. A discussion on the limitations of the research is presented followed by a discussion on suggestions for future research around promoting effective workplace learning and graduate development programmes.

1.9 Summary of chapter

This introductory chapter has provided a general overview of workplace learning and graduate development programmes in order to provide an understanding and appreciation of the importance of the research study. The problem statement was presented which speaks to the gap that exists in literature as far as workplace learning and graduate development programmes are concerned. The historical composition of South African workplaces was deliberated on in order to provide a theoretical background of the study. The objectives and purpose of the study were discussed with the intent of providing focus on the variables that were to be evaluated in order to answer the research question. The importance of the engineering profession was discussed in order to demonstrate the significance of the study. The chapter also presented a discussion on the potential of the study to add to the already existing body of knowledge on scarce skills in South Africa, while also providing new insights which have not yet been explored by other scholars.

The next chapter shifts focus to the literature review section as well the theoretical framework discussion. This chapter will also provide an evaluation of the degree of relationship between variables.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2. Introduction

The literature review provides information on graduate development programmes and workplace learning of engineering graduates and the relationship between these two constructs. Coaching and mentoring relationships are discussed as developmental tools which may be utilised to facilitate learning at work while graduates are undergoing their development programmes. In essence, the relationship between coaching and mentoring, and workplace learning, will also be demonstrated through the use of empirical literature. A discussion on career progression is also presented with a view that, as a result of the learning which graduates undergo during their developmental programmes, they may be better positioned for career advancement. Therefore, the discussion demonstrates that a positive relationship between career progression and workplace learning exists. The literature review also provides a discussion on employee retention and emphasises that workplace learning drives employee commitment and satisfaction which may ultimately result in increased employee retention. The last part of this chapter focuses on the theoretical framework. In this section of the literature review, social learning theory and motivation theories are discussed in order to contextualise the body of theory of this study.

2.1 Graduate development programmes

Much work has been done around graduate's experience of work early on in their careers (Kerckhoff, 2000; Ranis, Steward & Rairez, 2000; Ryan, 2001; Bynner & Parsons, 2002; Perrone & Vickers, 2003; Kraak, 2005; Korte, Sheppard, & Jordan, 2008; Hodkinson, Hodkinson, & Sparks, 2013). Much of the content on graduates' experiences after tertiary education largely focuses on expectation mismatches of both graduates and the organisations that hire them (Perrone & Vickers, 2003). In most cases, recent graduates join organisations hoping for high-paying, secure and satisfying employment but are later disappointed when their expectations are not immediately met (Jusoh, Simun, & Choy Chong, 2011). Organisations may also have their own expectations regarding the employees they appoint, expecting nothing less than superior delivery on work performance (Jusoh *et al.,* 2011). It may then be said that

there is a need for a developmental process which facilitates the transition of graduates to the workplace.

It is also argued that there is a gap between graduate skills and the skills required by companies. Generic competencies have been identified as those constituting a gap in the development of engineering graduates (Mills, 2002; Galloway, 2007; Male, 2010). However, an attempt to focus on generic skills for engineers has been met with a lot of resistance (Green, 2001; Mills, 2002; Galloway, 2007). Male (2010) argues that this is mainly because generic competencies such as communication, leadership skills and other "softer skills" are assigned lower status when compared to technical engineering skills. Literature has also indicated no significant relationship between academic grades and job performance, which implies that the burden of ensuring that new graduates who enter the labour market are integrated into organisations and are able to acquire the necessary business competencies lies with the organisations which appoint them (Scott & Yates, 2002; Nair, Patil, & Mertova, 2009).

Quek (2005) indicates that organisations have the choice between employing already experienced workers and appointing newly-graduated employees with the intention of developing them to fit their organisational strategies. According to Kraak (2005), the latter is an option taken by many organisations in South Africa in order to drive their own internal human resource development strategies to meet national imperatives and manage the cost of employee development. Quek (2005) further alludes that in the early 1990s the engineering curriculum did not contain material that could assist engineers to be ready for the world of work. Quek believes that the skills that were produced by universities were not helpful for organisations because they did not result in industry-relevant competencies and hence, graduates often struggled with transitioning from the university set up to the work environment (Quek, 2005). The importance of developing graduates for the workplace appears to be a priority for many organisations, hence the need to explore how this learning takes place through graduate development programmes.

Organisations globally often struggle to attract and appoint highly-talented employees and this often exposes them to rigorous competition when they do eventually find such employees. This global war for talent is captured in detail by McKinsey (2001) who alludes to a war of talent. There has been increased effort from organisations to utilise resources and funds, as well as setting aside time in the development of employees, and human capital has come to be viewed

by many organisations as crucial in achieving an organisation's strategic goals (McKinsey, 2001). This comes in light of the fact that the global demand for talented individuals has placed considerable pressure on organisations to develop rich pipelines of talent as this would give them a competitive advantage (McKinsey, 2001). According to McDermott, Mangan & O'Connor (2006), organisations should seek to actively introduce development programmes that address the development gaps of their employees. Graduate development programmes are therefore identified as a way to accelerate the development of graduates who enter the workplace for the first time (McDermott *et al*., 2006).

Talent management can be defined as "integrated efforts to recruit, develop and keep the best and most talented people" (Rothwell, 2010:2). The author argues that an organisation can maintain its competitive edge and drive continuity by investing in various talent management programmes (Rothwell, 2010). Organisations can also utilise graduate development programmes to expose new graduates to the business value chain and develop their industry-relevant technical and interpersonal skills (Rothwell, 2010). It is also argued that participation in such development programmes ensures that they have organisational commitment and that they are equipped with the necessary competencies that may facilitate their progression to senior positions (Garavan & Morley, 1997). Graduate development programmes not only benefit the graduates alone, organisations invest in such programmes so that they can better plan their talent and be responsive to any demands for skilful employees (Garavan & Morley, 1997). Organisations also recruit newly-graduated employees in order to shape them according to their organisational values, beliefs and culture (Alvesson & Willmott, 2002; Carden & Callahan, 2007).

According to McCall (1998), involving managers in any planning, rolling-out or implementing graduate development programmes is crucial in order for these programmes to yield successful results. Essentially, the responsibility for developing talent should be placed in the hands of organisational leaders as they hold the power to make decisions regarding who gets appointed or promoted (McCall, 1998). In addition, organisations elect to develop their own talent instead of recruiting externally because of the high costs associated with appointing already experienced individuals (McCall, 1998; Charan, 2009). Therefore, by investing in solid talent development and talent management programmes like the graduate development programme, organisations could potentially benefit from a cost-effective strategy (Charan, 2009). It therefore means that if employers select graduates with the relevant education and specific

competencies required, they can subject them to further training and development, and groom them according to their specific business needs and strategic goals in order overcome skills shortages and high recruitment costs (Charan, 2009).

2.1.1 Policy and legislative framework

The South African government has made attempts to tackle the problem of skills shortages by implementing legislation such as the Skills Development Act 97 of 1998 and the Joint Initiative on Priority Skills Acquisition (JIPSA) (Republic of South Africa, 1998; South African Government Online, 2008). These two pieces of legislation were primarily implemented to drive the development of skills for South Africans so that they could be employable (Republic of South Africa, 1998). In 2009, JIPSA was replaced by the Human Resource Development Strategy. However, when this occurred, the government did not make it clear as to how it intended to ensure that scarce skills were retained within the country (Republic of South Africa, 1998). Viney, Adams & Doherty (1997) argue that organisations have increasingly embarked on graduate development programmes in an effort to develop their own talent. Graduates are usually enrolled in development programmes in order to experience accelerated development that facilitates fast-tracked career advancement.

2.1.2 Strategic recruitment of engineering graduates

There are various strategies adopted by organisations in South Africa to recruit graduates for their development programmes. The South African Graduate Employer Association (SAGEA) was formed in 2004 and at the time had a membership of 20 organisations. The membership of this organisation has grown to 180 organisations in 2016 (SAGEA, 2016). The main objective of SAGEA is to assist organisations to be connected to potential graduate candidates. SAGEA also supports organisations by providing them with training on how to source high-performing graduates for their development programmes (SAGEA, 2016). Once organisations have sourced potential candidates, these candidates are often subjected to a rigorous recruitment process which includes face-to-face interview sessions, psychometric tests and other simulations (SAGEA, 2016). This is done to ensure that graduates who meet the required competencies are recruited so that their participation in the development programmes yields benefits for the organisations (SAGEA, 2016).

According to Viney *et al.*, (1997), graduates usually take to heart what is shared with them during the recruitment process. They join the different organisations with an expectation of fast-tracked career advancement (Viney *et al.*, 1997). It is argued that there often appears to be an expectation mismatch when graduates finally join their respective organisations. For example, in the study conducted by Viney *et al.*, (1997), one-fifth of graduates who were interviewed indicated that their organisations were not forthcoming with their expectations of them. The authors mentioned that companies usually paint a favourable picture of their organisational set up with the hope of attracting high-calibre graduates (Viney *et al.*, 1997). This leads to a situation in which graduates experience a culture shock when they join the organisations because what they experience may be the complete opposite of what they were promised (Viney *et al.*, 1997). As a result, graduates may feel that the organisations that recruited them were not entirely truthful and may feel dissatisfied and experience low motivation levels. Subsequently, graduates may start thinking about leaving their organisation to seek alternative opportunities (Hermanson, Hill, & Ivancevich, 2002).

Taking into account the challenges inherent in the graduate development programmes, it is worth investigating the reasons why organisations continue to invest time, money and resources into these programmes (McCall, 1998). There have been a number of reasons given to explain why organisations put in place graduate development programmes. One reason is that organisations recruit graduates to drive their Corporate Social Investment strategies (CSI) (McCall, 1998). Another reason given is that organisations elect to run development programmes because they may have noticed that other organisations have similar programmes in place and therefore may be implementing the programmes as a benchmark strategy (McCall, 1998). Lastly, some organisations may hold the genuine view that developing young talent is important for meeting business imperatives in the future, as it allows for better workforce planning and sustainable succession management (McCall, 1998). For these reasons, it is evident that organisations run graduate development for different reasons which are ultimately tied to their unique organisational strategies (McCall, 1998).

Graduates are typically recruited via company graduate recruitment drives, which mostly involve company representatives visiting universities to do presentations, attending career fairs, and marketing their company career offerings (SAGEA, 2016). The duration of graduate

development programmes ranges from a period of one year to a maximum of three years, depending on the needs of various organisations (SAGEA, 2016). Participation in these programmes ensures that graduates are exposed to learning and development activities which are structured to address their development gaps; they have access to both technical and interpersonal skills (SAGEA, 2016). Graduates are also expected to perform to their utmost to gain all the required competencies, and these are tracked through the use of regular appraisals (Viney *et a*l., 1997).

2.1.3 Transition from education to practice

Literature has addressed the skills requirement of graduates during their early entry into the world of work, and much more work has also been done around identifying the strengths and weaknesses of graduates during the early years of their careers (Higgins & Pettifor, 2003). Holmes (2001) believes that organisations should not only exclusively focus on the skills requirements of graduates but should rather focus on the transition process from university to work which graduates undergo. Holmes frames this transition period into what he terms the "graduate identity" and argues that organisations need a "way of framing, in conceptual and theoretical terms, the interactional processes by which a graduate and employer engage with each other and the outcomes of such interactions" (Holmes, 2001:112). The author indicates that an understanding of why it may be more difficult for some graduates to transition into the world of work as compared to others is critical, if organisations wish to engage in any type of learning relationship with graduates (Holmes, 2001).

Arguably, much work has been done on mismatches in the expectation of graduates and organisations in previous literature (Graham & McKenzie, 1995; Viney *et al*., 1997); Hesketh, 2000). However, Holmes (2001) offers a different lens with which to view the transition process of graduates and maintains that the skills agenda should not be the only element that organisations focus on when considering graduate recruitment. Holmes' (2001) views are considered for this study particularly because graduate development programmes adopt a holistic approach to developing graduates which not only focuses on skills acquisition but also looks at a graduate's socialisation process. There is also evidence that a formal university qualification is not the end of learning, as learning has become the lifeblood of all organisations (O'Reilly, Cunningham, & Lester, 1999; Jones, Woods, Coles, & Rein, 2001). Indeed, Harvey

(2001) argues that the primary purpose of higher education is not only on providing employability skills, but on developing lifelong learners.

2.1.4 The generational dimension of workplace composition

Of added importance in evaluating graduate development programmes is the uniqueness of the age composition of those who typically partake in these programmes. The generational composition of the workforce has changed to include people in different age groups (D'Netto & Ahmed, 2012). Present day workplaces include employees categorised as Baby Boomers, Generation X and Generation Y (D'Netto & Ahmed, 2012). While those categorised as "Baby Boomers" are beginning to go on retirement, and those referred to as "Generation X" are increasingly being promoted into senior positions, Generation Y employees are joining organisations in increasing numbers (D'Netto & Ahmed, 2012). The rapid entrance of this category of employees is said to be favourable to organisations if they invest time in understanding the unique characteristics of these employees. The workplace composition has experienced many changes with the entrance of a new generation of employees who fall between the ages of 20 and 30 years (D'Netto & Ahmed, 2012). This generation of employees is also said to have unique characteristics that are different from those of other generations (D'Netto & Ahmed, 2012). Generally, Generation Y employees are said to have been born between the 1980s and 2000s (Howe & Strauss, 2000).

Some of the unique characteristics of this category of employees are that they are outspoken, self-assured, self-determining and are goal-directed. These employees are also said to have an incredible liking for technological gadgets and are exposed to sophisticated technological advancement, which was never the case with previous generations (Meier & Crocker, 2010). Generation Y employees are said to have short attention spans, they do not possess good communication skills, they struggle to work with others, and have a poor work ethic (Meier & Crocker, 2010). Hence an understanding of this category of employees presents many opportunities for organisations to come up with innovative ways of managing them (Pekala, 2001).Other characteristics of the Generation Y category of employees is that they like tackling many tasks at the same time, while spending the bulk of their time on social media and being glued to the television (Shaw & Fairhurst, 2008). Additionally, these employees appreciate being given feedback from all angles, whether it be from family and friends, or from their managers, because they like being put at ease (Crumpacker & Crumpacker, 2007). They are

very sceptical of employers and therefore have low organisational loyalty; they do not like an authoritarian style of leadership (Loughlin, 2001). It may therefore be said that the majority of participants in the graduate development programmes are those falling under the generation Y category as these are recent graduates between the ages of 20 and 30 years. The central themes that appear in the literature on graduate development programmes indicate that at the centre of these programmes is learning and development, which indicates that there is a relationship between graduate development programmes and workplace learning.

2.2 Workplaces as learning environments

Matthews (1999) indicates that a lot of prominence has been given to learning and development activities that take place within workplaces. The accelerated organisational change, coupled with competition among local and international organisations, has forced them to re-look the skills set of their employees and to therefore put in place strategies to meet the skills demand of the ever-changing work environment (Winterton, 2007). Although organisations recognise the need and importance to drive workplace learning, there exists a lot of confusion around this concept (Winterton, 2007). This is because the concept of workplace learning comes with a lot of complexity as it involves a range of other elements that do not only focus on learning and development activities (Winterton, 2007). In order to understand and apply the concept of workplace learning in practice, there is a need to integrate various factors in order to provide a holistic view to the learning that takes place at work (Matthews, 1999). These factors include an organisation's learning paradigm as well as its learning needs, adult learning theory and the individual needs of employees (Matthews, 1999).

From this holistic view of workplace learning, Matthews (1999) provides ideas on various factors that affect workplace learning. In the author's view, technology, the workplace environment, the pace at which change occurs, an organisation's adopted style to providing and receiving learning, as well as individual discernment of learning, all affect workplace learning (Matthews, 1999). Essentially, the author argues that although many view workplace learning as a fairly recent trend which organisations place importance on, the concept itself is not new (Matthews, 1999). This is because a wide range of formal and informal workplace learning activities have always been in existence. Although the emphasis on the learning activities which take place at work might have changed, there has always been some type of learning happening within the organisational context (Billet, 2004). Taking into account the

prominence placed on the significance of learning at work, it is important to examine the workplace learning concept in the context of graduate development programmes.

Workplace learning is not easily definable, however the workplace learning concept is said to encompass a wide range of development activities which seek to equip employees with skills necessary to meeting performance objectives (Billet, 2004). Attempting to provide a definition of workplace learning may be restricted by the view that a workplace constitutes a location in which all activities are performed to meet specific objectives (Billet, 2001; 2002; 2004). Moreover, there are defining features that characterise any workplace. These characteristics include fostered behaviours, shared values and beliefs, as well as unique organisational cultures (Alvesson, 1993). Billet (2001) argues that there are various factors that affect the success of workplace learning. These factors include the opportunities for learning afforded by organisations, as well as the learning conditions which workplaces provide, together with the culture inherent in the organisation (Billet, 2001).

Notwithstanding the significance of driving workplace learning, it is also argued that the way a workplace is comprised has an influence on how work proceeds, the nature of learning need and how learning propositions are perceived or accepted by employees (Billet & Bound, 2001). Workplace learning should not be classified as whatever learning activity which takes place at work, because it involves any learning which takes place formally, informally or incidentally (Frank, 2004). In order to drive a successful workplace learning experience there should be a change that occurs as far as mind-set is concerned and on behaviour or attitude on the part of the organisation and/or the individual (Billet, 2004). An understanding and appreciation of workplace learning is important for both employers and employees because lifelong learning presents many advantages as far as talent management is concerned (Tynjälä, 2008). In addition, the learning opportunities presented by organisations to employees, the nature of the job tasks, and the support for development provided to employees are critical elements to look out for when attempting to understand the significance of the workplace learning process (Billet, 2002).

A particularly important element of workplace learning is the “learning affordances” as these have the potential to shape how individuals perceive learning and how they ultimately receive it. Individuals may be exposed to learning in various forms which may include learning by

observation or learning through listening. Both learning by observation and learning through listening have potential benefits, depending on individuals. Another way in which individuals can learn is by guided learning through coaching and mentoring interventions (Billet & Bound, 2001). It is also of paramount importance to take into account the learning paradigm of the organisation when focusing on the success factors of workplace learning (Matthews, 1999). The learning paradigm is focused on how people learn and the type of learning which takes place and these two elements determine the type and style of teaching in the workplace (Matthews, 1999).

2.2.1 Learning paradigms

An organisation's learning paradigm is influenced by its strategies, goals and responsiveness to risky situations and organisational changes (Matthews, 1999). There are three paradigms identified in literature; these include the technical learning paradigm, the interpretative paradigm and the strategic paradigm (Garavan, Gunnigle & McGuire, 2002; Kim, 2003; Chen, 2014). The dominant paradigm adopted by many organisations is the technical paradigm. The technical paradigm focuses on skills acquisition in order to improve work performance (Chen, 2014). The interpretative paradigm is centred on interaction between the learner and the teacher; it is about encouraging the learner to have an understanding of events around them and to also use judgement for solving complex problems (Kim, 2003). The strategic paradigm focuses on an understanding of belief and value systems as well as other concealed perceptions. The strategic paradigm is driven by open communication and the freedom to share viewpoints (Mezirow, 1996). However, the drive for workplace learning is not only something emphasised from the organisational side, it is also actively pursued by individual employees in an effort to take ownership of their own development (Garavan *et al*., 2002).

2.2.2 Developing workplace learning transformation

Rylatt (1994) developed a model which seeks to assist organisations to create workplaces that provide a conducive environment for learning. This model is based on the premise that before any successful learning culture can be attained, an organisation has to drive a change in mind-set (Rylatt, 1994; Chen, 2014). In this regard, Rylatt's model focuses on eight mind-sets which organisations should tackle in order to foster a meaningful workplace learning culture (Rylatt, 1994). A positive mind-set is required because, "mind-sets have the capacity to transform the

growth and performance of the workforce by providing much needed clarity and a sense of purpose to all actions, plans and strategies" (Rylatt, 1994:16). In essence, a change in mind-set is key to transforming any organisation into a learning organisation. The first mind-set to consider is that organisations should ensure that the learning afforded to employees should be of a high standard, such that any concerns around the change that learning brings are eliminated, and that employees do not view any introduced change process as presenting a threat (Bergmann, Hurson & Russ-Eft, 1999).

The second mind-set to consider is that learning activities should be carried out in such a way that they can systematically address development gaps while also ensuring that there is a level of interaction that takes place (Bergmann, Hurson & Russ-Eft, 1999). Thirdly, any learning and development activities should be related to an organisation's desired goals, and learning should be put in place as a drive to ensure that an organisation will be able to leverage on the capability of its employees in meeting its business deliverables (Chen, 2014). The fourth mind-set is that the learning experience provided by organisations should not only seek to address the acquisition of technical skills, but also a holistic approach should be adopted where learning is about developing an individual wholly. This will ensure that learning is meaningful and give employees a sense of esteem (Hurley, 2009). The fifth mind-set is that workplace learning must be self-directed, which means that employees should be able to take responsibility for their own development and be able to drive any learning activities that would help them to reach their developmental goals (Hurley, 2009).

The sixth mind-set to consider is that the learning that employees undergo should be tracked and assessed through the use of competency frameworks. This is because organisations need to ascertain the level of competency of their staff in order to plan out how these competencies can be applied at work to yield results in driving organisational goals (Merizow, 1996).The seventh mind-set is that organisations should ensure that any learning and development is presented timeously in order to effectively close development gaps as and when they are identified (Merizow, 1996). Lastly, organisations should be able to source appropriate learning material that is relevant to them and can assist their staff to acquire the skills that are meaningful to achieving organisational goals (Chen, 2014). These eight mind-sets seek to ensure that the goals of an organisation are met by considering the development needs of individuals, as well as the competency requirements of the business (Chen, 2014).

2.2.3 Environmental and attitudinal factors influencing workplace learning

Internal and external factors have an influence on how learning at work proceeds and on whether such learning is successful or not (Matthews, 1999). Both internal and external factors affect learning activities at work because organisations cannot operate independent of such influences (Matthews, 1999). In most cases, external factors have been seen to have the biggest impact on learning within organisations (Matthews, 1999). For example, in the South African context, employment laws such as the Skills Development Act (SDA) have an influence on learning activities that are offered by organisations because they especially encourage the development of designated groups. However, it is also argued that any organisation should also foster an internal organisational culture which promotes workplace learning (Matthews, 1999). This means that organisations should strive to provide an environment that facilitates the successful acquisition of new skills through a series of learning and development activities (Matthews, 1999).

The success of workplace learning is also dependent on employees' outlooks, perceptions, opinions, underlying assumptions and attitudes regarding learning at work (Matthews, 1999). It is unlikely that individuals will warm up to the idea of engaging in learning at work if they do not see that it would yield them some benefits, hence employee attitude plays a critical role in how workplace learning takes place; or if it takes place at all (Matthews, 1999). Chen (2014) therefore argues that organisations should focus on the attitudinal impacts of introducing workplace learning. The attitude of managers has also been said to have a big influence on the success of any learning that is introduced at work. Managers generally hold a lot of decision-making power which influences business outcomes, therefore it is important to include them in any planning and/delivery of any learning programmes (Hurley, 2009). Should managers not be a part of workplace learning programmes from their inception, there is a strong probability that they may not be supportive and the application of such programmes may be unsuccessful (Hurley, 2009). On the other hand, if managers are included in the process of introducing workplace learning programmes, they will more likely be committed to the successful implementation of these programmes (Hurley, 2009).

2.2.4 Effectiveness of workplaces as learning and development environments

The works of Billet (2000, 2001, 2002, & 2004) are particularly insightful when it comes to how training and development takes place in the workplace. The author argues that workplaces could possibly present themselves as appropriate sites of learning because guided participation in workplace activities facilitates effective learning for new employees. Of particular concern is the identification and effectiveness of opportunities afforded to the learners in the working environment. Billet (2001) also maintains that learners themselves should take ownership of how they learn in the work environment, since they have the power to determine which sources of knowledge are most appropriate to contribute to their learning experience. Moreover, Billett (1995) offers reasons as to why workplaces should be favoured as appropriate settings for learning. These include opportunities to engage in complex work tasks, understanding of the overall purpose of tasks performed through continuous communication, guidance from senior and more experienced colleagues, and systematic and structured tackling of problems (Billet, 1995).

Billet (1995) also focuses on factors that may inhibit the effectiveness of workplaces as sites of learning based on three studies conducted in Queensland, Australia. Based on these studies, the author identifies these factors as the provision of unsuitable knowledge, not being given opportunities to engage in meaningful activities, hesitance of experienced colleagues to share knowledge, over-reliance on instructional media, and insufficient numbers of subject matter experts (Billet, 1995). Billet also argues that it is incorrect and misleading to view workplaces as either formal or informal, or even view them in the context of being formal or informal (Billet, 1995). The author does concede that any form of learning is normally regarded as exclusive to formal educational settings, and the fact that workplaces do not have teachers to facilitate any learning interaction is often used to validate why workplaces are inferior to classroom-like set ups as learning sites (Billet, 1995).

Moreover, the fact that workplaces do not have any form of academic curriculum guiding the learning process perpetuates the notion that learning at work is unstructured, unplanned and haphazard (Billet, 2002). Billet argues that to view workplace activities in such a negative light is incorrect, because any activity that takes place at work is thoroughly planned and carried out in a structured manner (Billet, 1995). The author further emphasises that workplaces and formal educational settings are not different at all as far as learning is concerned. This is because

learning activities taking place in educational settings often governed by the rules, norms and goals of such institutions; in a similar way, the learning that occurs within workplaces is guided by organisational goals and strategic intent (Billet, 1995). Moreover, in both contexts, respective goals determine the type of learning that should take place, who should undergo which learning programme, and how the skill acquired will be assessed (Billet, 1995). It thus can be argued that learning as traditionally known, and participation in work activities, cannot be separated as there is some form of learning in both instances.

2.2.5 Human resource development and the learning organisation

The HRD literature normally focuses on organisational efforts to source and develop high potential employees. HRD is defined as "a set of systematic and planned activities designed by an organisation to provide its members with the opportunities to learn necessary skills to meet current and future job demands" (DeSimone, Werner, & Harris, 2002: 3). The central focus of HRD is the learning and activities that take place within workplaces (DeSimone, Werner, & Harris, 2002). In essence, organisations drive HRD efforts in order to facilitate a situation in which employees apply the skills and competencies they have gained through learning activities to meet business demands (Garavan & McGuire, 2001). Although HRD is about developing the person holistically, it is important for employees to utilise their learned expertise in the organisational context (Garavan & McGuire, 2001). HRD activities also assist organisations to be better responsive to global changes and productivity demands (Garavan, Bamicle, & O'Sulleabhain, 1999; Hodgetts, Luthan, & Slocum, 1999; Losey, 1999). Essentially, HRD promotes the use of competency frameworks that not only assess employee's level of competence, but also seek to identify and close developmental gaps through learning and development programmes (Reid & Barrington, 1994; Thomson & Mabey, 1994; Lei & Hitt, 1996; Spangenberg, Schroder, & Duvenge, 1999).

The learning organisation concept was coined by Senge (1990). Senge defines a learning organisation as a workplace in which "people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990:3). The learning organisation is also characterised as a form of culture inherent in organisations (Senge, 1990). It is viewed in the context of an organisational culture because it focuses on the norms, perceptions and belief systems of people regarding learning

and development, and the knowledge sharing process (Berg & Chyung, 2008). On the other hand, the concept of a learning organisation is seen as process design strategy which focuses on an organisation's efforts to facilitate an environment where employees can share knowledge (Garavan, 1997; Thomas & Allen, 2004).

Viewing the learning organisation in the context of process design may be appealing to various scholars who have an interest in the HRD discourse (Berg & Chyung, 2008). This is because viewing the learning organisation as a process design strategy implies that when an organisation puts in place suitable learning and development programmes, it can easily be transformed into a learning organisation (Berg & Chyung, 2008). The learning organisation facilitates learning activities that can be grouped into three categories, one of which is the individual level (Marsick & Watkins, 2001). The individual level focuses on the acquisition, which is facilitated by communication and exposure to various learning activities (O'Neil, 2003). The second level is the group level and is reported to be "the mutual construction of new knowledge, including the capacity for concerted, collaborative action" (Marsick & Watkins, 2001:32). The third and last level is the organisational level which focuses on learning that is put in place to address the collective learning needs of individuals within an organisation (Berg & Chyung, 2008).

Literature on workplace learning indicates that workplace learning involves a process of various developmental activities aimed at equipping individuals with skills that provide them with new competencies. As was discussed above on the literature of graduate development programmes, and taking into account that these programmes have been conceptualised as involving a systematic process of knowledge sharing, it can be argued that there exists a direct relationship between workplace learning and graduate development programmes. There are various challenges faced by employees when they join new organisations and these often involve the challenge of adapting to the new environment and getting up to speed with what is required of them in their new positions (Grant, 2010). Organisations also experience challenges when they take on new employees, especially from a support perspective because each time they appoint a new employee, this employee has to be trained and assimilated into the organisational culture (Grant, 2010).

It is therefore crucial for new employees to develop sound relationships with their colleagues while they are still going through their socialisation process (Grant, 2010). In a study conducted by Cawyer and Friedrich (1998), new employees indicated that it was very important to be acclimatised with the organisational culture, and to be informed upfront of the performance expectations that their organisations have of them in order to eliminate any expectation mismatches. These respondents also mentioned that they experienced less support from their organisations, and indicated that new employees should take it upon themselves to grow their own social and professional networks (Cawyer & Friedrich, 1998). Research on organisational socialisation indicates that new employees can proactively build network ties by identifying role models that can assist them to find their feet when they start a new job (Cawyer & Friedrich, 1998). From this standpoint, Truijen and van Woerkom (2008) indicate that workplace coaching has rapidly increased over the years and is utilised as a tool to facilitate learning and development programmes within the workplace.

2.3 Coaching and mentoring

2.3.1 Informal and formal coaching

There are two types of coaching discussed in the literature, namely formal and informal coaching. Formal coaching is formal in its nature and conversations from sessions may be recorded for future reference (Grant, 2010). Informal coaching involves conversations that seek to assist the coachee to apply different techniques of problem-solving; they are about inspiring and motivating an individual to actively take ownership of their development (Grant, 2010). A similarity in both types of coaching approaches is that they focus on a more senior, experienced individual assisting a junior, and less experienced individual to meet their development goals (Grant, 2010). This coaching relationship can employ various strategies. For example, it can be targeted at the development of technical skills or it can focus on interpersonal development, which may involve behavioural and attitudinal grooming (Grant, 2010). Coaching may be seen to consume a lot of time for coaches who often have other responsibilities to address; however, it is effective in itself, and it has been associated with improved employee performance (Yu, 2007). Employees also regard managers who adopt a coaching approach to leadership as very effective (Morgeson, 2005).

In a study conducted by Ellinger, Ellinger & Keller (2003), warehouse supervisors were regarded as effective leaders because of their good coaching skills. Moreover, employees were

found to have high levels of satisfaction and general well-being due to the coaching style of their supervisors (Arnold, Turner, Barling, Kellowag, & Mckeen, 2007). According to Grant (2006), there are five factors that influence the successful implementation of a coaching relationship. One of these is the quality of activities addressed during the coaching session, i.e. whether these activities yield meaningful outcomes or not. The second factor is the nature of the coaching relationship, whether this relationship is sound and collaborative or not. The third factor is around whether the coaching relationship seeks to solve complex programmes or not. The fourth factor is around goal setting, i.e. whether the coaching relationship is based on tangible goals or not; and lastly, whether the coaching session is based on self-directed learning where the coachee drives the coaching activities or not.

2.3.2 Characteristics of the coaching relationship

One of the defining characteristics of the coaching relationship is that it takes place to address development gaps that will assist the coachee to meet certain goals (Brockbank & MacGill, 2012). A distinction of the coaching relationship from other developmental relationships is required (Brockbank & MacGill, 2012). In this study, coaching relationships are distinguished from mentoring relationships. The coaching relationship is personalised and encourages honest feedback about how an individual is performing against performance expectations, and this relationship relies heavily on trust (Sherman & Freas, 2004). The coach normally applies a non-judgemental approach to giving feedback, by not only addressing development gaps but also magnifying the coachee's strong points. These conversations are also treated with the utmost privacy, hence trust is important (Grant, 2010). The coach does not prescribe to the coachee on what to do to improve their performance, however various techniques are suggested which may assist the coach and the coachee to drive their own development (Grant, 2010).

Moreover, coaches do not prescribe solutions to problems; this is done collaboratively because coaches are often not subject-matter experts in the coachee's line of work (McAdam, 2005). When coaching is contextualised from an HRD perspective, it is viewed as a way in which knowledge transfer is facilitated by developmental relationships that encourage senior and experienced employees to share their knowledge and expertise with junior and less experienced employees (McAdam, 2005). Coaching therefore is seen as a tool utilised to assist employees to acquire new skills and knowledge that will assist them to meet their performance goals (McAdam, 2005). There are set techniques that coaches often apply to assist coachees. The

first technique is goal-setting (Locke & Latham, 2002; Morisano, Wegge, Bipp, & Kleinbeck, 2007); Hirsh, Peterson, Pihl, & Shore, 2010). The second technique is to encourage the coachee to practice learned skills in their work (Grant, 2010). The third technique is to turn the practice into actual work performance in order for them to benefit from the learning experience (Grant, 2010). In light of the fact that coaching relationships are predominately based of various learning activities, it is suggested that coaching facilitates workplace learning (Kozlowski & DeShon, 2004; van der Locht, van Dam, & Chiaburu, 2013).

2.3.3 Benefits of the coaching relationship

There are various benefits that come with coaching relationships. The first is that coaching assists with the accomplishment of performance goals; they strengthen professional relationships, drive employee commitment and increase organisational productivity (Jones, Rafferty, & Griffin, 2006; Kombarakaran, Yang, Baker, & Fernandes, 2008; Fischer & Beimers, 2009; McGuffin & Obonyo, 2010). Secondly, coaching also drives self-directed learning because the coachee is driving their own development, and they control their own learning and development activities (Salas & Kozlowski, 2010). It is also argued that the coaching relationship assists with the psychosocial state of new graduates because it helps them to be more self-assured, less stressed as well as more engaged (Sonnentag & Frese, 2002). In addition, graduates often struggle with adjusting their mind-set to the workplace environment early on in their careers, therefore coaching relationships often assist them in the transition process (Selzer, 2008).

Moreover, organisations often expect graduates to deliver work that is of equal value to that of already experienced employees and hence exerting considerable pressure on them (Rothwell, 2010). Using managers to coach graduates may therefore assist them to deal with the pressures of the workplace and to also prepare them for more complex roles that are demanding (Rothwell, 2010). However, it is also argued that the use of managers as coaches might not yield fruitful results because they may not devote adequate time to graduates as they have other responsibilities (Amy, 2003). Managers may also view coaching as a distraction from their already demanding roles and may not be that supportive of graduates (Amy, 2003). On the contrary, if managers are properly trained in coaching skills and can balance the demands of their work with the coaching responsibilities, the coaching experience may be beneficial for them and the graduates that they coach (Amy, 2003). Therefore, coaching can be a tool to drive

employee organisational commitment (Rothwell, 2010). It can therefore be argued that the role and significance of coaches remains an important element of workplace learning, particularly to the learning and development of new employees, and especially newly-graduated employees entering the workplace.

2.3.4 Mentoring relationships

Mentoring relationships are typically long-term and they normally occur between an experienced and senior person like a manager and a less-experienced individual who holds a junior position within the organisation (Eby, Allen, Hoffman, Baranik, Sauer, Bodwin, & Evans, 2012). A mentor's role is normally to guide and motivate the mentee around aspects of their development as well as to connect the mentee with other senior people (Eby *et al*., 2012). Scandura (2002) indicates that people generally learn a lot when they interact with others who are more experienced and hold senior positions within organisations. It is also argued that a lot of the learning for new employees generally occurs during the socialisation process. The socialisation process involves equipping new employees with knowledge of the organisational goals and values, performance expectations as well as the organisational structure and hierarchy (Scandura, 2002). Literature on the socialisation process focuses on the type of information that is normally sought by new employees when they join organisations. These types of information are technical, normative and referent (Rawson, 2000; Scandura, 2002; Allen, Eby, Poteet, & Lentz, 2004).

Scandura (2002), further indicates that although learning programmes have a certain level of effectiveness as far as transmitting knowledge is concerned, social networks and relationships at work largely influence the learning outcomes of new employees. It therefore becomes evident that mentoring relations have the ability to facilitate the socialisation process of new employees through encouraging them to drive their own development and to actively seek new forms of knowledge. The mentor can also expose new employees to business leaders and therefore assist them to build strong social networks (Scandura, 2002). Literature defines a mentor as a senior individual who has experience and acts as a role model to a junior protégé, and guides and supports them to achieve both their career and interpersonal objectives by providing them with constant feedback (Rawson, 2000; Kram & Chermiss, 2001; Scandura, 2001). Due to the mentor's seniority within the organisation, it may be easier for them to

introduce the protégé to decision-makers and may therefore facilitate their growth (Rawson, 2000; Kram & Chermiss, 2001; Scandura, 2001).

2.3.5 Mentoring models

There are two mentoring models presented in the literature on mentoring relationships, the first of which is the functionalist model. The functionalist model focuses on the learning outcomes of the protégé and does not focus on their holistic development (Scandura, 2001). The second model of the mentoring relationship is the relational model which focuses on developing the protégé holistically by focusing on both their learning outcomes and on developing their interpersonal skills. Respect and trust play a huge role in this relationship as the protégé seeks support on all aspects of their development (Scandura, 2001). Billet (2003) suggests that mentoring should not be restricted to one mentor, as a variety of mentors with different skills may be utilised to mentor one protégé, which may be greatly beneficial to both the mentor and protégé. In this regard, there have also been suggestions in the literature that mentoring may yield greater benefits when goals are set before the relationship commences as this may ensure that any development taking place is structured and planned (Scandura, 2001).

Literature also indicates that the trust and social network aspect of the relational model allows for mentors to also be developed in interpersonal skills and therefore creates a positive organisational culture. However, O'Neill & Gish (2001) indicate that a gap exists in the mentoring literature when it comes to the development of interpersonal skills for mentors. A positive workplace culture facilitates the successful socialisation of new employees and ensures that they assimilate successfully to the workplace standards, vision and culture (Scandura, 2001). It is also suggested that mentoring is critical for all new employees, however it is particularly important for those employees who face difficulties with getting used to workplace performance expectations and demands (Scandura, 2001). In addition, there is need for clarity on how mentoring relationships can be structured to provide support for varies ethnicities and to also take into account gender differences (Scandura, 2001). Moreover, Scandura (2001) also argues that literature should also examine how multiple mentors with multiple skills can better support the protégé to meet their development goals; this view is also shared by Billet (2003). Vaughan (2008) argues that attitudes perpetuating a narrow focus on workplace learning as not important as compared to learning at educational institutions has been changing over the years.

This, therefore, promotes more opportunities for workplace mentoring relationships to thrive in organisations.

2.3.6 Characteristics of the mentoring relationship

All definitions of the relationships contain the "assistance" connotation; however; the emphasis in these definitions differs greatly. For example, the functionalist definition of mentoring is based on a hierarchical approach of support which focuses on the organisation choosing a mentor on behalf of the protégé in order to meet its own organisational goals (Hipes & Marinoni, 2005). Moreover, this type of relationship is based on instructional learning and learning outcomes only, therefore there is not a relationship between the protégé and the mentor (Hipes & Marinoni, 2005). On the other hand, the other definition of the mentoring relationship focuses on providing support to the protégé, and it is a relationship based on trust and friendship where the mentor focuses on developing the protégé holistically (Hipes & Marinoni, 2005).

Although it is important to consider the two definitions of mentoring relations above, it is also necessary to consider how the word "mentor" originated. A mentor was regarded as a faithful and wise advisor to Odyssey. Essentially, in Homer's Odyssey significant trust was placed on the mentor to protect Telemachus, the son of Odyssey. The mentor was meant to look after Odyssey's son while he sailed against Troy and to also ensure that he was protected at all times (Ragins & Kram, 2007). Traditionally, European workplaces placed a power dimension on the mentoring relationship in that a mentor was normally assumed to be an older and more powerful person within the organisation who was expected to support a younger person with less power, to develop in their career (Darwin, 2000). Workplaces today typically adopt the same principle towards mentoring relationships because mentors are normally powerful individuals in terms of hierarchical status and salary, and they are expected to develop junior and inexperienced protégés (Darwin, 2000).

Mentoring relationships have a dominant identity because mentoring theory owes its origin to the experiences of white males (Fletcher & Ragins, 2007). There may sometimes be exploitative and unequal power relationships between protégés and their mentors within organisations (Darwin, 2000). This is because mentoring relationships have always had a paternalistic feature to them in that they were based on hierarchical workplace relationships that perpetuated power-dependent relations between more powerful mentors and less powerful

protégés (Darwin, 2000). The control and power over knowledge transfer have the potential to inhibit effective communication and the idea that a mentor has to strictly be a more powerful person, while a protégé has to be less powerful, should not be seen as appropriate for learning and development (Darwin, 2000). This is because this paternalistic approach to mentoring distances mentors from protégés and therefore inhibits the personalised support relationships which should exists in a knowledge sharing process (Darwin, 2000).

According to Darwin (2000), female mentors often elect to share power by working with other women instead of exerting power over others. Women are also more likely to value the learning relationship rather than focusing on the power dimension of the mentoring relationship. The author argues that women find it much easier to focus on interdependence than is the case for male mentors. The power-sharing element which women bring to workplace mentoring is contested, however research indicates that women can truly share power in mentoring relationships. For example, research conducted in the glass industry indicates that females possess the appropriate skills, knowledge and attitudes to promote power-sharing in the workplace more so than males (Holland, 2004). However, McKeen & Bujaki (2007) argued that women often do not have power in organisations and were generally less likely to take on mentoring roles, although female protégés were found to be more open to cross-gender mentoring relationships than is the case for male protégés.

2.3.7 Formal and informal mentoring relationships

Mentoring relationships can be categorised into informal and formal relationships. Literature focusing on informal and formal mentoring focuses on the development and implementation of the relationships as well as how the mentoring takes place in the workplace context (Darwin, 2000). Formal mentoring relationships are normally set up by organisations because they are the ones that allocate mentors to protégés in order to facilitate development processes that will assist protégés to meet performance requirements (Baugh & Fagenson, 2007). Informal mentoring relationships on the other hand are initiated by organisations, protégés normally identity their own mentors and therefore engage in an informal development process (Baugh & Fagenson, 2007). It is argued that informal mentoring relations might be more impactful than formal mentoring relationships if they are not restricted to only meeting organisational performance objectives but may also address development objectives outside the organisation (Baugh & Fagenson, 2007).

Both informal and formal mentoring relations have their own benefits. It is argued that there is more planning and structure in formal mentoring relationships than is the case with informal relationships. Formal relationships are also said to be consistent whereas informal relationships may have variations in terms of length, content and frequency (Baugh & Fagenson, 2007). Since formal mentoring relationships are initiated by organisations, they may involve the use of supervisors or managers as mentors, while informal mentoring relationships are normally just-in-time, and a protégé may identify any person to assist them to meet certain development objectives (Baugh & Fagenson, 2007). It is argued that protégés are in most need of mentoring when they start new employment because that is when they require support and guidance on various aspects of their jobs (Baugh & Fagenson, 2007). There are also stages identified in the mentoring process; the first year of employment for a protégé is called the initiation stage, the second to fifth years are called the cultivation stages, sixth and more years are the separation stages, and then the redefinition stage exists when the mentoring process becomes more of a peer-like relationship (Ragins & Kram, 2007).

2.3.8 Benefits and challenges of mentoring relationships

Many organisations have taken it upon themselves to introduce mentoring relationships in order to benefit from the benefits inherent in these relationships for both organisations and employees (Boud, Rooney & Solomon, 2009). Literature suggests that mentoring relationships may increase employee retention, improve the development of staff, improve talent management processes, drive organisational performance and promote healthy organisational culture (Clutterbuck & Lane, 2004; Ragins & Kram, 2007; Connor & Pakora, 2007; Blake-Beard, Murrell, & Thomas, 2007). When a workplace environment is supportive to learning and development, mentoring relationships will be successful and will facilitate a knowledge sharing process (Billet, 2003). Mentoring relationships also facilitate the organisational socialisation process which allows for new employees to be introduced to the goals and objectives of their organisations as well as to understand the business value chain (Chao, 2007). The socialisation process is important because it provides new employees with clarity on their role in the wider organisational context, performance expectations and therefore drives organisational commitment (Chao, 2007).

In addition, based on the figures of the Saratogoa Institute in 2003, twenty-two percent of new employees left their jobs in the first year of employment (Chao, 2007). It is therefore argued that employees have a bigger probability of leaving if they have not been exposed to an appropriate socialisation process (Chao, 2007). New employees also leave their jobs if they do not fit in with the organisational culture or if they feel that their own identities do not fit in well with the work they are required to perform (Chao, 2007). The absence of an appropriate socialisation process can be equated to the functionalist model of mentoring which only focuses on learning outcomes and not the development of the whole person (Chao, 2007). Mentoring should therefore take into account the holistic development of the individual by targeting the technical and interpersonal skills needs of the individual while also ensuring that the mentoring relationships will also result in positive delivery of a business's objectives (Harris, Willis, Simons, & Collins, 2001).

While considerations should be taken on the benefits of mentoring relations, it is worth noting that organisations also experience challenges with their mentoring programmes. In a study conducted by Billet (2003) where he interviewed eight mentors, the benefits and challenges were highlighted. All mentors indicated that they were confident that their mentoring was effective, however one mentor indicated that time was a challenge and may have affected the ability to perform the mentoring role effectively (Billet, 2003). The other seven mentors also alluded to the issue of time and how they struggled to find a balance between setting time aside for their protégés and the time required to push the flow of production (Billet, 2003). One area which came across as a challenge is the mentors' ability to manage the interest of protégés and their readiness to move to senior roles (Billet, 2003). Other challenges with mentoring relationships are that some can be very destructive in that they may involve a level of harassment, bullying and manipulation, among others (Eby *et al*., 2007). In addition, when the protégé and mentor have a mismatch in their personalities, work ethics and values may pose a challenge in the mentoring relationship. Sometimes the abuse of power or neglect by the mentor may leave the protégé disengaged and demotivated (Eby *et al*., 2007).

2.3.9 The role of race and gender on coaching and mentoring relationships

Research on coaching and mentoring indicates that gender has an influence on the developmental relationship (Wanberg, Welsh & Hezlett, 2003). Women have attained a certain level of success, and normally attribute it to having being mentored at some point during their

careers (Wanberg *et al*., 2003). However, cross-gender mentoring relations are often clouded by assumptions that women do not have good managerial skills as compared to men and may therefore not make good mentors (Tenenbaum, Crosby, & Gliner 2001). There are great advantages inherent in the coaching and mentoring relationships for both males and females, however it is argued that these relationships may especially be advantageous for women because they normally face a lot of barriers for progression in organisations (O'Brien, Biga, Kessler, & Allen, 2004). Women have less access to mentoring and coaching opportunities than men because they normally hold less power in organisations (O'Brien *et al*., 2008).

The theory of power and gender indicates that female employees encounter many barriers when it comes to accessing mentoring opportunities. These barriers also extend to social, interpersonal and other barriers because they hold less power in all aspects of society (Ragins & Sundstrom, 1989). Organisations have increasingly put in place development programmes that deliberately target women because of the existing barriers that inhibit them from progressing in their careers (Allen, Eby, & Lentz, 2006; Finkelstein & Poteet, 2007; Ragins, 2007). This is because women's lower organisational and social power warrants that they receive more support from either a coach or mentor in order to succeed in their careers. In addition, women are also seen to display a tender, nurturing and compassionate character which could be said to allow them to be much more comfortable with developmental programmes that offer psychosocial support than would be the case for men (O'Brien, 2008).

Men are said to be comfortable with developmental programmes that focus on career growth strictly. As a result of this, when choosing or being allocated a mentor, protégés may look out for mentoring relationships that match their gender roles, therefore the gender type of the coach or mentor may have significant influence on the success of the developmental relationship (O'Brien, 2008). In addition, protégés are more likely to elect to be mentored by a male mentor because they normally hold higher organisational power (O'Brien, 2008). Similarly, because females normally hold lower organisational power, they may be reluctant to take on mentoring roles because they may fear that if protégés fail, this failure may be a reflection of them having inadequate skills (O'Brien, 2008). The choice of mentors may also be affected by assumptions that gross-gender mentoring relations may have a sexual element to them and this may result in gossip (Tenenbaum *et al*., 2001).

Indeed, an examination of coaching and mentoring for women and Black people has only recently sparked an interest among researchers (Tenenbaum *et al*., 2001). There are also trust issues between women from different racial groups, and these trust issues are also apparent among men (Tenenbaum *et al*., 2001). Male mentors may view engaging in mentoring relationships with non-white protégés as a risk which could not be matched by the potential benefits of engaging in such relationships (Tenenbaum *et al.,* 2001). It can, however, be said that mentoring relationships can particularly assist Black people and women so that they can overcome barriers that inhibit them to progress in their careers (Tenenbaum *et al*., 2001). These barriers to career progression may be said to include stereotyping, tokenism, lack of access to business networks, and perceptions that cross-racial and cross-gender mentoring cannot be successful (Tenenbaum *et al*., 2001). It is important to examine race and gender with regard to workplace mentoring and coaching, as both social phenomena affect all aspects of society (Blake-Beard, Murrel, & Thomas, 2006).

The composition of people in the workplace, together with the changing nature of organisations necessitates an understanding of racial interactions at work (Blake-Beard *et al*., 2006). Organisations have changed to be more diverse in their compositions, encompassing different racial groups as well as gender types. It therefore becomes important for organisations to ensure that there is workplace harmony as far as the culture and diversity of their employees is concerned (Blake-Beard *et al*., 2006). It is vital to apply a critical lens on the diversity that exists in organisations because there is more cross-racial, cross-gender and cross-cultural interaction among employees in one organisation (Murrell & Hayes-James, 2001). Although there is increasing recognition of diversity in the workplace, there appears to still be barriers referred to as "glass ceilings" that prevent designated groups from being represented in the top levels of the organisational hierarchy, as is the case in the lower and middle levels in most organisations (Murrell & Hayes-James, 2001). This glass ceiling mostly impacts on Black women who experience a "double disadvantage" within organisations (Blake-Beard *et al*., 2006). This concept of glass ceiling will be further discussed in the literature on gender participation and career progression. It can therefore be argued that race and gender dimensions underpin relationships in the workplace because of the inherent diversity of organisations.

Literature on coaching and mentoring relationships for example (Finn, 2000; Lindsay, 2002; Holden & Hamblett, 2007) indicates that the role of both developmental relationships is to

transfer knowledge and skills from more experienced and senior individuals to less experienced and junior individuals. The content from the literature also suggests that coaching and mentoring relationships assist with the socialisation process of new employees. This not only drives technical skills development but also facilitates organisational culture assimilation. It is therefore evident that a positive relationship exists between workplace learning and coaching and mentoring relationships.

2.4 Gender participation and career progression

Graduates often do not have the industry-relevant skills required by organisations (Davies, 2000; Finn, 2000; Lindsay, 2002). Ensuring that young graduates have skills required by industry may improve a country's social and economic viability (Ball, 2003; Holden & Hamblett, 2007; Connor & Shaw, 2008). It is also necessary to have an understanding of graduates' early career experiences immediately after they leave universities (Ball, 2003). Garavan & McGuire (2001) suggest that organisations put in place competency frameworks in order to assess employee competency levels during the workplace learning process. The work by Caravan & McGuire (2001) is important because it presupposes that professional development can be measured through competency frameworks therefore providing guidance as to how the professional development of graduates can be measured.

There are five levels which an individual can progress through in order to gain various competencies, one of which is called the novice (Jacobs & Washington, 2002). The novice is defined by first exposure to the workplace where an individual does not have the ability to meet job requirements (Jacobs & Washington, 2002). The second level of progression is the specialist, and this level requires that an individual perform a range of work that is limited (Jacobs & Washington, 2002). The third level of progression is the experienced specialist level, where an individual can perform most required work repeatedly and can therefore perform the same type of work without any difficulty (Jacobs & Washington, 2002). The fourth level of progression is the expert level, and this level requires an individual to be able to execute work which is routine and also non-routine (Jacobs & Washington, 2002). The fifth level of progression is the real expert. This levels requires an individual to have more knowledge and skills than would be the case at the expert level so as to set the standard for everyone else (Jacobs & Washington, 2002). These levels show the progression stages of employees within organisations through the acquisition of specific competencies. (Jacobs & Washington, 2002).

This work is useful because it provides guidance to the levels of career progression which are linked to workplace learning. This work will assist in terms of investigating the career progression of the engineering trainees on their competence levels (Jacobs & Washington, 2002).

2.4.1 Gendered division of labour

The gendered division of labour in organisations has been said to perpetuate barriers known as the glass ceiling for female workers (Hedwig, 2003). The glass ceiling effect can be characterized as barriers existing in organisations to restrict the career progression of Black people and female employees (Hedwig, 2003). The glass ceiling for women which exists in workplaces is also promoted by gender stereotypes and further leads to discrimination (Dovidio & Hebl, 2005). It is argued that gender discrimination is more apparent for women engineers, particularly because the engineering profession is assumed to be masculine (Cortis & Cassar, 2005). Women's careers should not only be seen as a right, because the involvement of women in the workforce has the potential to assist countries in the achievement of their social and economic well-being (Parikh & Sukhatme, 2004). It can therefore be said that the participation and progression of women in organisations is important for economic growth as they have become key economic players in the labour market.

The growing participation of women in the workforce globally is also evident across the world (International Labour Organisation, 2008). For example, between the years 2000 and 2007, 1.6 out of 1.9 million positions were held by female employees globally (ILO, 2008). It has therefore become important for organisations to put in place attraction, development and retention strategies that specifically target women (Catalyst, 2007). In addition, it has been argued that when organisations hire more female employees in senior management positions, they often outperform organisations that have less female representation at senior level positions (Jacobs, 2005). However, even in light of this argument, there has not been much change with regard to the numbers of females who hold senior leadership positions in workplaces around the world (Jacobs, 2005). Nonetheless, with the increasing number of female entrants into traditionally male positions, comes many challenges for organisations in developing countries (Elliott, 2007). The South African government seeks to address labour market discrimination in any form through re-dress legislation (Phaahla, 2000).

Although the Employment Equity Act 55 of 1998 seeks to re-dress past injustices through, for example, ensuring that organisations afford opportunities for learning and development to previously disadvantaged groups, women still struggle to progress in organisations (Phaahla, 2000). For example, most women struggle with work-life balance and may struggle to meet the requirements of demanding roles (Phaahla, 2000). According to Ginsburg (2012), male employees are generally more open to moving to areas far from their primary locations, taking risks that could impact their finances or even putting in long hours of work. In addition, gender stereotypes regarding which roles best suit males or females lead to assumptions around which roles may be appropriate or reserved for males or females (Ginsburg, 2012). It has also been suggested that women may face strain, coupled with role conflict because they normally have to deal with family and career demands at the same time (Ginsburg, 2012). They face further obstacles in their careers when they occupy senior roles within organisations because there are assumptions that they are less competent than men (Northouse, 2003). These stereotypes can thus be said to also hinder the progression of women in organisations as would be the case for men.

2.4.2 The impact of race and gender on career advancement

According to Bowen and Hisrich (1986) and Jones (1986), there are certain concepts that are universally applicable across all cultures. However, certain elements do not appear to apply to Southern African conditions. One of the obvious differences is that the population distribution in the United States differs from that of South Africa and that most Blacks and whites in the United States share a common and homogenous culture. In South Africa, whites are the minority, and the society is characterised by a rich diversity of cultures. Furthermore, there is little reference in Bowen and Hisrich's 1986 model regarding social, economic and political factors influencing career development of Blacks in South Africa. Jones (1986) describes the impact of legislation and racism as factors impeding careers. These variables do affect career advancement in South Africa and should be included in career development models.

In the United States, the readiness of minority women and men, along with white women, to progress to management positions, as well as their competency levels to take on senior executive roles, is an issue of contention (Kamenou & Fearfull, 2006). There are also suggestions that educational qualifications are important for career advancement, which essentially puts minority groups on the back foot. This is because minority groups started

acquiring business degrees in large numbers only after the 1970s and they are therefore regarded as being in the talent pipeline for consideration of any management role (Baxter & Wright, 2000). This argument contends that the progression of minority groups will eventually take effect as they move through the pipeline ((Baxter & Wright, 2000). However, another argument posits that focusing on business degrees as being the only stumbling block to the advancement of minority groups and white females is not reflective of what really transpires in organisations (Corsun & Costen, 2001). In this regard, it is suggested that racial and gender stereotypes often serve as barriers to the progression of both minority groups and white women into senior roles (Corsun & Costen, 2001). Developing senior professionals, such as chief executive officers, involves a long process and may take between 25 and 35 years to achieve before one is classed as fully competent. At this stage, CEOs could be around the ages of 50 or 60 (Cook & Glass; 2014). This view therefore justifies the notion that minority groups and white women are still in the pipeline and will eventually have opportunities for progression (Cook & Glass; 2014). However, there is evidence to suggest that even when they hold a business degree, minority groups and white women are still not offered opportunities for advancement because of long-standing stereotypes (Cook & Glass; 2014).

Globally, women face similar prejudices that inhibit them from progressing and although they possess untapped talent, these prejudices still continue (Coleman, 2010). The educational accomplishment of women allows them access to junior entry roles; however, they still face challenges with accessing senior positions (Coleman, 2010). It is for this reason that the progression of women into senior roles does not match with increasing numbers of women who enter the labour market globally (ILO, 2003). Women generally face many barriers to advancement because they do not have access to coaching and mentoring opportunities, business networks, lack of role models and they also experience difficulties with handling family and job demands (Crampton & Mishra, 1999). The stereotypes around women also affect their ability to successfully carry out senior positions (Catalyst, 2005). The stereotypes around females as senior managers perpetuate notions that women are not fit or competent enough to deliver work that is expected from management roles.

Based on a study conducted at a manufacturing company in the Eastern Cape province of South Africa, stereotypes about women in the workplace inhibit them from advancing to senior positions (Lyod & Mey, 2007). In this study, women from various management positions,

inclusive of team leaders, supervisors and managers, were interviewed. In addition to these female participants, twelve managers were also requested to participate in the study. The females who were interviewed were vocal on the fact that male employees in their organisations progress faster than female employees (Lyod & Mey, 2007). The findings from the study generally supported the view that gender has an influence on the promotion of employees. There were suggestions made by respondents from this study, in as far as addressing discriminatory gender practices that favour male advancement at the expense of female advancement. One suggestion that was brought forward was to introduce flexibility of working hours, especially for women, and the second suggestion was to embark on awareness campaigns that seek to educate employees on gender discrimination issues (Lyod & Mey, 2007). These suggestions address a lot of the challenges presented in literature. Women on a global scale encounter obstacles with work-life balance (Grzywacz & Marks, 2000). However, it is argued that South African organisations have made concerted efforts to promote the career advancement of female employees (Jones & McKenna, 2002) as cited by Mostert (2006).

A survey conducted by Cooper Union suggested that female engineers often experienced fewer opportunities for progression even when performing the same work as their male counterparts (Burke & Mattis (2005). Moreover, female engineers also indicated that ideas and suggestions were often overlooked and those of male engineers were accepted (Burke & Mattis (2005). It was also mentioned that female engineers belonging to the minority group felt that they were more scrutinised than male engineers (Burke & Mattis, 2005). In the South African context, figures presented by the Central Statistics Survey in 2005 indicate that only 4% of African women were in senior management positions, while Coloureds comprised 1%, Indians made up 5% and white women sat at 8% (Department of Labour, 2005). In this regard, it is suggested that female employees in South Africa face similar advancement barriers as is the case in other countries (Erwee, 1994; Erasmus, 1998; Mathur-Helm, 2002) cited in Littrell and Nkomo (2005). As already discussed, a rich body of research exists on the advancement barriers that women encounter. In summary, barriers that are mentioned in literature include traditional and cultural stereotypes, inaccessibility of promotion opportunities, balancing family and job demands, inaccessibility of learning opportunities, as well as coaching and mentoring opportunities (Gomez-Mejia, Balkin, & Cardy, 2001; Yona 2001; Peens 2003).

2.4.3 Overcoming gender-based career advancement barriers

Many organisations now see the value of accommodating women's dual responsibilities of being both family carers and career women, for example by introducing day care programmes (Greer, 2001). Organisations implement such programmes in order to reduce employee turnover and improve attendance at work, especially for female employees. It is also recommended that organisations put in place polices that seek to support employees with families so as to promote a culture in which employees do not feel prejudiced for having families (Mostert, 2006). Some strategies could include offering female employees opportunities to work part time. Also, there should be various employee benefits that cater for the needs of individuals who have families, and organisations should devise placement programmes for spouses of employees who are requested to relocate for business purposes (Laabs, 1994; Solomon, 1998; Peens, 2003; Vinassa, 2003). It is worth mentioning that programmes such as those mentioned will normally meet with a lot of resistance, because although there is an increasing number of female engineers joining organisations, their numbers are still relatively low compared to men (Hersh, 2002).

2.4.4 Policy and legislative implications

Re-dress legislation in South Africa has shifted focus from hiring practices that comply with affirmative action policies (Horwitz, Jain & Mbabane, 2005). In essence, the Employment Equity (EE) Act 55 of 1998, the Skills Development Levies Act 9 of 1999 and the Skills Development Act 97 of 1998 now focus on the hiring, learning and development as well as succession management of designated groups (Horwitz *et al*., 2005). The EE Act also shifted focus by addressing the skills gap as well at devoting attention to engagement between employers and trade unions (Van Wyk & Schenk 2003; Thomas, 2004; Rautenbach 2005; Swanepoel, Erasmus, Van Wyk & Schenck, 2003). As a result of the changes in focus, the government also introduced the Broad-Based Black Economic Empowerment policy administered by the Broad-Based Black Economic Empowerment (BBBEE) Commission (Horwitz *et al.*, 2005). The BBBEE legislation was put in place to facilitate the increased representation of black individuals in management positions as well as increase the ownership of businesses by black people (Horwitz *et al.*, 2005). However, even after the introduction of various legislation, there is evidence to suggest that there has been slow progress in re-dress,

especially concerning the EE Act (Thomas, 2004; Horwitz *et al*.; 2005; Booysen & Nkomo 2006; Selby & Sutherland 2006).

Both local and international research indicates that although legislation is important to address issues of gender and racial discrimination within organisations, there is more that can be done especially around promoting a healthy organisational culture (Bartlett & Ghoshall, 2002; Thomas, 2002; Horwitz *et al.;* 2005; Kilian, Hukai, & McCarty, 2005; Selby & Sutherland 2006). While it is favourable for organisations to comply with legislative requirements, there should also be systematic organisational transformation (Horwitz *et al*., 2005). Attempts to drive employment equity should be accompanied by human resource and employment practices that support the transformational agenda (Horwitz *et al*., 2005). It is argued that companies in South African, however, face unique challenges. The first one is to recruit and retain competent previously disadvantaged employees. The second one is to implement training and development strategies that afford designated groups opportunities to develop. The third one is achievement of organisational goals. The fourth one is to address the first, second and third challenges while also ensuring that they create workplace environments that appreciate and respect individual values as well as the unique contributions of all employees (Horwitz *et al*.; 2005).

2.4.5 Accelerating the career progression of black engineering graduates

Although re-dress legislation has been the focus for many organisations in order to facilitate the hiring, developing and retaining of designated groups, there is not much mentioned in literature about "space creation" as a strategy that can be used to further promote re-dress efforts (Implats 2004; Mittal Steel South Africa Limited, 2005). For the purposes of this study, "space creation" involves any process that seeks to ensure that white managers make way for black employees to take on management positions. This can be done by putting actions in place to persuade the white managers to exit their roles, for example by offering them severance packages in order to facilitate the advancement of black managers within organisations (Implats 2004; Mittal Steel South Africa Limited, 2005). Although the concept of space creation is suggested in employment equity and affirmative action legislations, not much mention of it is made in current literature. One reason that can be given for this is that, the space creation process creates a lot of emotional discomfort especially for white people (Implats 2004; Mittal Steel South Africa Limited, 2005).

Essentially, besides offering white managers severance packages, the space creation process entails that senior white managers are provided with incentives in order to encourage them to exit organisations. Space creation serves to provide potential solutions for the slow progress in the EE implementation which have resulted in the failure to address inequalities in the workplace (Bouche & Booysen, 2005). Although organisations in South Africa have aggressively embarked on activities to drive EE goals, they have also been vocal about their operational and strategic concerns (Thomas, 2002). Firstly, there are concerns that a rigorous drive for EE may negatively affect foreign direct investment because of the labour market being over-regulated. Secondly, there are concerns that the drive for EE leads to work overload for both the private and public sector as it entails a lot of administration and monitoring. Thirdly, there may be impractical expectations from designated group employees regarding access to learning and development opportunities and this may lead to a culture of entitlement among this group of employees (Thomas, 2002; Maharaj, 2003).

Literature on career advancement indicates that in order for employees to progress to senior positions, there is a need for them to engage in various development interventions that are targeted at up-skilling them and equipping them with the necessary competencies. It follows then that learning at work is central to career advancement, hence it can be argued that there is a positive relationship between workplace learning and career progression.

2.5 Employee retention

Between 2002 and 2007, organisations faced the challenge of attracting and retaining talent due to intensive international competition which existed due to the expansion of the global economy (Prince, 2007). It follows then that training and development interventions have become more crucial for organisations in order to equip employees with competencies to meet industry needs (Turnball, 2007). Ulrich (2006) indicates that employee competence is about possessing the skills and knowledge required to effectively carry out the responsibilities of a job. According to Govaerts, Kynadt, Dochy, & Baert (2011), the baby-boomer generation, which is the older generation, is starting to retire while the younger generation, referred to as generation Y, are increasingly entering the labour market (Govaerts *et al*., 2011). Organisations also face immense pressures and constantly compete for talent due to the global competition and technological changes that are inherent in globalisation (Govaerts *et al*., 2011).

The competition for talent impacts the supply of employees and also puts organisations at risk of losing experienced, talented and knowledgeable employees whom they would not necessarily want to lose (Govaerts *et al*., 2011). This view is also supported by Beechler & Woodward (2009) who allude to a "war on talent". According to Ulrich (2006), the war on talent is about organisational efforts to attract, develop and keep highly capable employees whose competencies can assist organisations to meet their objectives. It therefore can be suggested that the competitiveness of any organisation depends on its talent pool as employees have a big role to play in promoting an organisation's competitive advantage (Govaerts *et al*., 2011). Moreover, it is also very important to ensure that talented employees are retained because losing such employees means that organisations lose out on their investment as they would need to train new employees who subsequently replace those who exit their businesses (Govaerts *et al*., 2011).

Moreover, organisations are also actively finding new strategies to sourcing new talent. In addition, there are increasing efforts to deliberately recruit employee groups that have traditionally not been afforded employment opportunities in order to diversify the talent pool (Beechler & Woodward, 2009). An example of this can be seen from these three companies, P&G, IBM and General Electric. P&G hires employees who are on retirement in order to ensure that they share their experience with younger employees; this is the same principle applied at IBM. On the other hand, General Electric applied reverse mentoring in an effort to show an appreciation of employees who fall under different generational categories. Essentially, young employees are requested to tutor older employees on the use of new technological products (Court, Farrell, & Forsyth, 2007).

Existing literature on employee retention also suggests that high levels of employee retention can be achieved through affording employees with learning and development opportunities (Arnold, 2005; Herman, 2005). It can thus be suggested that access to learning and development opportunities has a direct impact on the retention of employees because when employees feel that they are continuously growing, their organisational commitment levels may be strengthened (Arnold, 2005; Herman, 2005). On the contrary, employees may feel the need to leave their jobs if they feel that they are not growing (Rodriguez, 2008). This therefore means that learning and development activities are a crucial aspect of attempts to promote

employee retention. It is for this reason that organisations should ensure that they provide working environments that are supportive for learning (Govaerts *et al*., 2011). Moreover, Samuel & Chipunza (2009) focus on the extrinsic and intrinsic factors that have an effect on employee retention within the private and public sectors of South Africa. These factors are argued to include, for example, a sense of belonging, learning and development opportunities, security of employment and others (Samuel & Chipunza, 2009). Drawing on the results of their study, there is a direct correlation between employee retention and access to learning and development opportunities (Samuel & Chipunza, 2009).

Kandola, Wood, Dholakia & Keane (2006) argue that graduates believe that they can easily fast-track their development for career advancement through participating in graduate development programmes. It is however also argued that if opportunities for career advancement are not presented as quickly as anticipated, graduates may be left dissatisfied and demotivated (Kandola *et al*., 2006). Similar views are shared by Smith (2010) who argues that various factors may improve the retention of graduates. The author indicates that organisations can retain graduates by affording them opportunities to partake in complex job tasks that are linked to their academic qualifications, provide an ethical work environment, take their inputs into account and also recognise their achievements and continuously provide access to learning and development (Smith, 2010). In addition, the Ashridge Business School & Institute of Leadership and Management (2011) also present factors that organisations should look out for in order to ensure that graduates are not dissatisfied. The first factor is the salaries given to graduates, second is the pace of career progression, and third is micro-management which prevents autonomy and ownership of own work (Ashridge & ILM, 2011: 11).

2.5.1 Driving employee retention through job satisfaction

Chandrakassi (2008) pursued a study on examining the job satisfaction levels of graduates from two big South African organisations. This study included 100 graduates who were participating in graduate development programmes (Chandrakassi, 2008). This study revealed that 52% of the study sample was dissatisfied because they felt that their organisations did not provide the necessary support to them as they only focused on business deliverables (Chandrakassi, 2008). There was also evidence of an expectation mismatch between graduates and their employers. The graduates also felt that the development programmes did not provide relevant learning exposure and this created insecurities and uncertainties regarding the future of their careers

(Chandrakassi, 2008). On the other hand, a study carried out by Arnold and Mackenzie (1999) provided different views. The study comprised 126 participants; 67 graduates were from the United Kingdom while 59 were from the Netherlands (Chandrakassi, 2008). All graduates in the study indicated that their organisations exceeded their expectations and it was therefore concluded that graduate development programmes in smaller organisations yield higher levels of employee satisfaction than those in large organisations, based on views by participating graduates (Chandrakassi, 2008). It was also suggested that this was the case because graduates in smaller organisations receive more attention towards their development than is the case for graduates in bigger organisations (Chandrakassi, 2008).

Clark & Oswald (1996) suggested that when individuals are more educated they tend to have high career advancement expectations and it may therefore be difficult to satisfy them. A model presented by Judge, Bono, Thoresen and Patton (2001) indicates that employees' levels of satisfaction are dependent on their needs and values. According to Mora, Garcia-Aracil & Vila (2007), employees may experience dissatisfaction when they feel that they are over- educated for the roles tha t they perform. However, when employees are put in positions that stretch their capability and perform at a level or two levels higher than their positions, they may experience more satisfaction (Mora, Garcia-Aracil, & Vila (2007). The author also found that graduates who were in positions that utilise their educational qualifications, were appointed in permanent positions, were receiving good salaries and could manage work and life demands generally experienced high satisfaction levels.

Moreover, there are different levels of happiness which may affect graduates' satisfaction levels (Boswell, Shipp, Payne, & Culbertson, 2009). Graduates will normally experience an "initial high in job satisfaction when they join an organisation during the 'honeymoon' period" (Boswell *et al.*, 2009: 845). However, once they have settled into their positions and start monotonous work they start to experience dissatisfaction (Boswell *et al*., 2009). This dissatisfaction is also attributed to organisations that are not upfront in all aspects of a job and paint only a favourable picture, which is not necessarily a true reflection of the job offering (Boswell *et al*., 2009). Although there are different levels of satisfaction experienced by employees, there is no information on the time-frames at which the levels may present themselves. In essence, the satisfaction level may last longer if the role meets the expectation of employees because dissatisfaction determines the choice of employees to leave or stay with

their organisations (Griffeth, Hom, & Gaertner, 2000; Harrison, Newman, & Roth, 2006). In addition, the satisfaction levels of employees are also affected by their reporting managers; for example it was found that graduates are generally not happy with their managers and as a result opt to leave their employment (Ashridge & ILM, 2011). It was also found that a common reason given by employees as to why they leave organisations, is that they were dissatisfied with their managers (Ashridge & ILM, 2011).

2.5.2 Graduates' motivation to change jobs

Graduates will often change jobs frequently in an effort to build their skills and experience quickly and remain marketable (Alsop, 2008). They are more likely to leave jobs that do not offer accelerated career growth (Alsop, 2008). This frequent change of jobs may make organisations anxious about the degree of organisational loyalty that graduates have (Alsop, 2008). It is however suggested that although graduates may not be loyal to organisations, they are often loyal to a specific individual or individuals within the organisation and may therefore elect to stay longer in their jobs for that reason (Alsop, 2008). Research conducted by Ashridge & ILM (2011) on the organisational commitment of graduates, indicates that 75% of participants mentioned the pride they had in working for their respective organisations, while 68% mentioned that they would highly recommend their organisations to family and friends, and 75% mentioned that they were eager to assist their organisations to meet their goals and objectives. However, even with this beautiful picture, the majority of these graduates all mentioned that they did not intend to stay in their jobs beyond two years (Ashridge & ILM, 2011). This is supported by statistics presented by SAGRA (2011) which indicate that 34% of graduates in South Africa stay with their organisation for more than five years, while 19% indicated that they would stay with their organisation for three to four years, and 11% mentioned that they would stay for less than two years. Graduates in South Africa placed significant importance on salary as a major factor influencing their choice to leave or remain with a company (SAGRA, 2011).

Saari & Judge (2004) agreed that salary is an important factor that determines retention of graduates, however they mention that the scope of a job is also an element factor to consider. This view is supported in literature, for example (Judge & Church, 2000; Arnold & Mackenzie, 1999). In essence, employees tend to experience high levels of job satisfaction if the jobs they perform are complex, challenging and fulfilling (Judge & Church, 2000; Arnold & Mackenzie,

1999). Fifty-eight percent of graduates in South Africa mentioned that the culture of an organisation can determine if they elect to stay with an organisation or leave (SAGRA, 2011). According to Saari & Judge (2004), it is the responsibility of organisations to promote a healthy organisational culture that encourages a supportive and inclusive climate where each employee feels appreciated and valued as a member of the broader team. This is because an environment that is defined by an individualist and bureaucratic culture is not capable of promoting organisational commitment and loyalty (Lund, 2003).

Therefore, it can be argued that a workplace environment in which employees are supported and are allowed to come up with innovative business solutions can increase organisational loyalty and therefore the satisfaction levels of employees (Lund, 2003). Organisations that have a healthy culture and an environment of openness and transparency are desirable for employees (McKinsey, 2001). Professional engineers were recently top of the list for talent shortages in South Africa according to a global survey conducted by Manpower Incorporated (2007). This 'war for talent' is an intense global competition for talented individuals, such as engineers (Conger, Hill, & Ready, 2008; Thite, 2004). Capelli (2000) maintains that the intensity of this talent war has resulted in organisations viewing retention as a competitive exercise. The availability of graduate talent would appear to solve the war for talent for many organisations. However, these graduates are believed to have contrasting attitudes towards work in general when compared to older employees currently in the working environment (Capelli, 2000). The younger generation graduates have different characteristics from older generations because they were brought up and socialised differently (Connor & Shaw, 2008; King, 2003).

2.5.3 Retention of engineers in South Africa

Some organisations have realised that their survival depends on attracting, developing and retaining key employees in difficult economic periods (Drucker, 2002; Altman, 2008; Durkin, 2008; Vlad, 2008). The importance of retaining engineers in the current economy is due to the fact that organisations may not be able to achieve their performance goals and objectives with the knowledge and skills of engineering professionals (Martin & Moldoveanu, 2003). In South Africa, retaining engineers is especially critical for economic sustainability. Evidently, despite postponements of projects having increased during 2009, there have not been any major retrenchments resulting in significant job losses where engineers are concerned (South African Association of Consulting Engineers, 2010). Unfortunately, despite the demand for engineers,

South Africa continuously loses many skilled engineers who have sought career opportunities outside of its borders (Sherry, 2006). Consequentially, organisations in South Africa could employ more effective tactics to attract, and more importantly, retain engineers.

A survey conducted by Manpower Incorporated in 2007 confirmed the need for effective retention measures in South Africa. Their survey of approximately 37 000 employees across 27 countries specifically assessed skills shortages. The results showed that globally, engineering positions were the fourth hardest for employers to fill, while in South Africa it was the profession that experienced the most difficulties in filling vacancies (Manpower Incorporated, 2007). One would imagine that with engineers being such a critical resource in South Africa, organisations would have effective retention measures in place to retain these scarce engineering skills. It appears that this might not be the case because engineering companies have in the past offered their employees financial rewards in order to retain them (Conrad, 2009). This, according to Cappelli (2000) & Glass (2007), is not sufficient as money is not the only deciding factor for employees when deciding to remain with an organisation. Conrad therefore suggests that engineering companies should put in place creative employee retention programmes in order to improve their retention level (Conrad, 2009).

In McDermott, Mangan & O'Connor's (2006) it was found that the most important career expectation for engineering graduates was stimulating and challenging work. The second most important career expectation was established to be career advancement and the third was good salary and benefits. Their study also found that many organisations failed to understand what graduates' pre-entry career expectations are. The only information that organisations could gather is what was obtained during interviews with graduates or more ideally, what graduates' psychometric assessment results revealed. The authors concluded that unmet expectations from graduates' perspectives were a common reason for leaving these organisations. Mabey & Gardner (1994) in their study of engineering graduates found similar results to establish the potential predictors of turnover. Their findings highlight the importance of pre-career expectations as a variable which could lead to new employees being retained with the organisation. The authors concluded that graduate entrants who are well-informed are able to build a positive set of expectations regarding the job and the organisation prior to entering it, and are less likely to consider leaving their employers. As a result, Guest & Sturges (2001)

suggest that before appointing graduates, organisations should have assessment tools that measure their expectations in order to ascertain aspects of the job that graduates view as crucial.

Meyer (1997) asserts that graduates' needs for learning opportunities are strongest in their early years of employment because they join organisations expecting that they will advance quickly in their careers (Davey, Guest, & Sturges, 2000; Keenen & Newton, 1986). It can therefore be said that a high level of priority is attached by graduates to an organisation's ability to provide learning opportunities that facilitate career advancement (Davey *et al*., 2000). If organisations are not able to provide these opportunities, graduates' organisational loyalty is low and they tend to leave (Robinson, Murrells, & Clinton, 2006). A research by Pitzrick (2001) confirms that engineering graduates specifically do not expect their first position to be a long-term choice because they attempt to take advantage of better opportunities during their early careers. Therefore, turnover among engineering graduates is typically high in the initial stages of their careers.

In 2008, Gruber conducted research to ascertain what the retention factors for engineers operating within the engineering consulting sector in South Africa were. These factors were good salary, healthy workplace relationship, learning and development, challenging work, autonomy, work-life balance and being motivated (Gruber, 2008). In other studies, engineering-training programmes, mentoring and coaching by senior engineers were also found to be instrumental factors in the retention of engineers (Parker Brown, 2001; Pitzrick, 2001; Glagola & Nichols, 2002). Thite (2004) maintains that today's engineers have an expectation of employment security, social networks, feedback, work flexibility, being allowed to carry out innovative work and working independently.

2.5.4 The effects of generational differences on employee retention

Jorgensen (2005) suggests that part of the solution to this retention challenge lies in the creation of strategies that target unique generational characteristics. Karl Mannheim's generational theory of the 1950s gave rise to the concept of generational cohorts which is defined as individuals who share the same characteristic of being born around the same period (Edmunds & Turner, 2005). Exact birth date parameters are, however, still up for debate (Smolaand Sutton, 2002; Reeves, 2006; Codrington & Marshall, 2008; Gruber, 2008). It is believed that cohorts share similarities in that they were born at the same time in history and have had a

shared experience of events during that time (Edmunds & Turner, 2005; D'Amato & Herzfeldt, 2008). These events lead to common opinions, values and life perspectives in general (Zemke, Raines, & Filipczak, 2000; Smola & Sutton, 2002; Gruber, 2008; Gardner. Forsyth, & Macky (2008) state that although there are many forms of media suggesting that there are generational differences in the workplace, these suggestions are often not opposed or questioned. As a result of this, there have been many academic debates around the credibility of generational cohort theory.

A summary of birth date parameters as presented by the Society for Human Resource Management (SHRM) is shown on Table 2.1 below.

Table 2.1: ***Birthdate Parameters***

Birth Parameter	Type of Generational Cohort
1977-1992	Generation Y
1961-1976	Generation X
1941-1960	Baby Boomers
1920-1940	The Silent Generation

Source: SHRM Generational Differences Survey (2004)

However, since Howe & Strauss (1992) contend that generations must fill a unique location in history, Codrington & Marshall (2008) proposed birth date parameters for different countries. These parameters were based on specific events that occurred within each of the various countries and a summary is depicted in Table 2.2.

Table 2. 2: ***Birth Parameters for Different Countries***

Type of Generational Cohort	South Africa	USA	UK/Europe	Japan
Generation Y	1990 - 2005	1984 - 2001	1985 - 2001	1986 - 2001
Generation X	1970 – 1989	1963 -1983	1966 - 1984	1966 - 1985
Baby Boomer	1950 - 1969	1943 – 1962	1946 - 1965	1945 – 1965
The Silent Generation	1930 - 1949	1923 -1942	1918 - 1945	1925 - 1945

Source: Generational birth data parameters per country (Codrington & Marshall, 2008)

It is clear from Table 2.2 that the only countries that would have Generation Y employees in the workplace, after having completed a four- or five-year engineering qualification, would be the USA, Europe, the UK, and Japan. In South Africa, the Generation Y population would be between the ages of five and twenty according to Codrington & Marshall (2008) and between eighteen and thirty three according to SHRM (2004). Codrington & Marshall's research on generational theory has faced much criticism for its lack of academic credibility. In light of the fact that SHRM is a recognised academic institution that conducts scientific and academic research, the birth date parameters as depicted in Table 2.1 have been applied for this study. Therefore, all references made to Generation Y refer to those graduates born between 1977 and 1992.

Generation Y employees are different from earlier generations because they do not stay long with organisations. Many organisations face multiple challenges, attempting to ensure that they keep graduates in their employment (Guest & Sturges, 2001). Daniels (1996) believes that the retention challenges that organisations face are not only prevalent in South Africa. Retaining employees while they are starting off their careers seems to be a global phenomenon (Daniels, 1996). McGee (2005) indicates that this situation is much more apparent for Generation Y employees and may continue for the rest of their career life. In this regard, Ng & Burke (2002) maintain that organisations should make concerted efforts to understanding their Generation Y employees' needs, values and expectations. Despite the challenges around Generation Y employees, there also appears to be problems with retaining other generation groups. It is widely believed that employees in general, regardless of their age, are more prone to leave their jobs than was the case previously (D'Amato & Herzfeldt, 2008).

D'Amato & Herzfeldt (2008) argue that employees have lost the confidence that organisations can provide them with job security, and therefore are less committed to their employers (D'Amato & Herzfeldt, 2008). The reasons for this decreased organisational loyalty are said to include cost-cutting by organisations, restructuring, outsourcing and other reasons (D'Amato & Herzfeldt, 2008). This has resulted in careers being made up of multiple job changes across different organisations (Arthur & Rousseau, 1996; Sutherland, 1999). Martin, Stains & Pate (1998) argue that because the challenges of retention seem to be applicable across all generations, there is a need to explore if indeed the generational composition of the workforce

does in fact affect its retention levels and if it does, how this may be different across different generation.

2.5.5 Strategies to retain generation Y graduates

Generation Y graduates search for managers to nurture them and provide advice (Zhu, Petterson, & Karefalk, 2007), which is more than earlier generations expected (Conrad, 2009) and in some instances, more than organisations usually provide (Spiro, 2006). Work-life balance is another area where generations are reported to differ. While Generation Y is willing to work as long and as hard as the Baby Boomer Generation, they often prioritise work-life balance above all things (Kogan, 2001; Fralix, 2006; Crumpacker & Crumpacker, 2007; Sayers, 2007; Zhu *et al*., 2007; Codrington & Marshall, 2008; Dwyer, 2008; Klun, 2008; Downs, 2009; Conrad, 2009). Generation Y expects the organisation to provide high quality training, development and advancement opportunities (Conrad, 2009).

In addition, D'Amato and Herzfeldt (2008) purport that learning and development is of vital importance to this generation as they constantly want to partake in learning programmes that will help them to remain employable. Factors that impact retention for Generation Y employees are not only tangible; they include meaning, organisations that hold values similar to theirs, and being afforded the opportunity to add value (Stairs, Galpin, Page, & Linley, 2006). Organisations should drive mentorship as this is one of the best strategies to retain Generation Y graduates (Shaw & Fairhurst, 2008). Young employees prefer jobs that are aligned with their own personal objectives while also providing opportunities for them to work with knowledgeable people who have a strong moral compass (Allen, 2004). This category of employees does not enjoy boring repetitive work, they appreciate performing work that is meaningful and like to be often reaffirmed that their work fits in to the broader organisational context, and hence involving them in critical decision-making is important (Allen, 2004).

Organisations should match the skills and abilities of Generation Y employees with the work that they perform (Martin & Tulgan, 2006). These employees are highly ambitious and should therefore always be allocated work which is complex, challenging and rewarding (Bedingfield, 2005). Providing job flexibility should also be considered for these employees in order to afford them the freedom to meaningfully carry out their work and therefore receive greater levels of satisfaction from taking control of their own work (Amar, 2004; Hulett, 2006). Moreover,

organisations should give Generation Y employees access to participate in various projects that encourage them to be innovative and apply their own ideas (Meier & Crocker, 2010). These employees also value interaction with colleagues, therefore they appreciate workplaces that are conducive for socialising (Washington, 2008). Organisations can also retain Generation Y employees by putting in place robust on-boarding programmes. On-boarding programmes assist to expose new employees to the business value chain, and learning and development opportunities (Cheeseman, 2009).

Healthy working relationships between managers and Generation Y employees also facilitate good retention levels and improved trust and organisational commitment. Frequent and timely feedback on performance expectations and development gaps can also engage and motivate Generation Y employees (Glass, 2007; Shih & Allen, 2007). It is also important to allow these employees access to senior members of organisations and this is a strong empowerment tool and they may feel greatly appreciated. Organisations should also strive to ensure that employees are paid fairly as this has been identified as important for retention (Behrens, 2009). There should be other non-monetary recognition incentives in place to motivate Generation Y employees as well the opportunity to choose from a range of other incentives or perks (Nagle, 1999; O'Malley, 2006; Balderrama, 2007; Cheese, 2007). In addition, organisations should offer Generation Y employees benefits and perks that address their own unique circumstances (Allen, 2004). These employees also enjoy working in environments that make them feel appreciated, recognise their abilities and values their inputs (Allen, 2004). Corporate Social Responsibility activities are also appealing for Generation Y employees because they enjoy making a difference in society (Martin & Tulgan, 2006; Cheese, 2007; Shepherd, 2007).

Literature on employee retention suggests that investing in employees' development increases organisational commitment which may in turn drive retention. Literature has also been implicit on the importance that Generation Y employees place on learning and development. It follows then that there is a positive correlation between workplace learning and employee retention as articulated in existing literature.

2.6 Theoretical framework

2.6.1 Social learning theory

The focus of the social learning theory is on the learning that takes place when people learn from each other through observing and imitating certain behaviour or even learning through listening to what other people say during the learning process (Bandura, 1971). In essence, the principle around social learning is that people may receive learning through the observation of behaviour displayed by other people in their environment. It is however also argued that individuals learn through observation; this learning can also take place with a change in their behaviour (Bandura, 1971). In addition, behaviour theorists maintain that any type of learning ultimately leads to a change in one's behaviour, on the other hand social learning theorists have a contrasting view in that they believe that learning can occur with observation alone and may not necessarily result in behavioural changes (Bandura, 1971).

Observational learning, which is also known as 'modelling' has various characteristics to it. Firstly, people are prone to want to adopt positive characteristics of the person they are modelling. For example, if the modelled person displays good traits such as being powerful, talented and knowledgeable, people may find it desirable to mimic their behaviours (Bandura, 1971). Secondly, behaviour that is not seen as admirable will less likely be adopted. When people identify certain behaviour as not being desirable, they will tend not to model the person displaying such behaviour (Bandura, 1971). Thirdly, it is also important to distinguish between acquisition of behaviour and the actual application of it, or display of behaviour by observers. (Bandura, 1971). This is because during the observation process, individuals are able to acquire certain behaviours but they may not necessarily carry them forward for application. However, if opportunities for rewarding this particular behaviour arise, an individual can then apply the acquired behaviour (Bandura, 1971).

Moreover, the learning that takes place through observation requires a separate process of applying attention to detail, production of knowledge as well as the motivation to learn through others (Bandura, 1971). The study has adopted this theoretical framework as it centres on mentoring and coaching relations as a way in which black graduates are socialised within their respective organisations, and also enjoy the benefits of knowledge transfer from those assigned to them as mentors and coaches. It follows then that observational learning in the form of

coaching and mentoring is the critical aspect of graduate development programmes as it drives the learning and development of graduates in the workplace.

2.6.2 Motivation theory

Many scholars have made tremendous inputs into the theories of motivation (Kanfer, 1990; Locke & Latham, 2004; Latham & Pinder, 2005). According to these scholars, motivation is the characteristic that helps one to achieve one's goals and the drive that pushes one to work harder. Motivation theory is based on two theoretical bodies referred to as content theories and process theories (Latham & Pinder, 2005). The focus of content theories is on the specific needs that motivate individuals. These theories include the Cognitive Evaluation Theory (CET; Maslow's Hierarchy of Needs; the Human Motivation Theory (HMT); Motivator-Hygiene Theory; the Existence, Relatedness and Growth (ERG) theory and theory X and Y. Process theories on the other hand look at how an individual's behavior is energized, directed or demotivated. There are four process theories identified in literature and these are reinforcement, expectancy, equity, and goal setting.

2.6.2.1 Content theories

According to Deci & Ryan (1985), the CET is based on extrinsic and intrinsic motivational systems. These motivators may, for example, include intrinsic motivators such as the opportunity to acquire new competencies, being afforded more job responsibility, and the need to achieve targets and goals. The extrinsic motivators may, for example, include high pay, frequent feedback on performance, opportunities for promotion and pleasant conditions of work. Either extrinsic or intrinsic factors may affect an individual level of motivation. Essentially, when people experience high levels of motivation because of intrinsic factors they are more likely perform to the highest standards, as this provides them with personal satisfaction and contentment (Deci & Ryan, 1985). On the other hand, when individuals are motivated by extrinsic factors, they may lose their motivation if they feel that their salaries do not match up to the load of the work that they perform, or if they feel that their conditions of work are not up to acceptable standards (Deci & Ryan, 1985). It is also argued that if extrinsic factors are much more powerful than intrinsic factors for any particular individual, extrinsic factors may effectively reduce an individual's intrinsic motivation to deliver high-quality work performance (Deci & Ryan, 1985).

Maslow (1943) coined the hierarchy of needs model. This model has five categories with which people's needs are characterised. The top of the model is the need for self-actualisation, followed by the need for self-esteem, the need to belong, and the need to feel safe and attain appropriate levels of physiological well-being (Maslow, 1943). When these needs are put in the workplace context they can be summarised as follows:

i. The need for self-actualisation may involve learning and development, career advancement and opportunities to be involved in creative and innovative work.
ii. The need for self-esteem may include being afforded high status in the organisational hierarchy, being recognised for individual inputs and ideas, and being afforded opportunities to take on important and complex work assignments.
iii. The need to belong may involve being part of a team, interacting with customers, having access to senior managers and important people in the organisation.
iv. The need for safety may include being assured that one works in a safe working environment, having access to medical and life insurance as well as being assured of the security of one's job.
i. The need for physiological well-being may include flexible working schedules, being able to balance family and work demands, or good salaries that can adequately address personal needs.

It is also argued that as the needs of the lower part of the model are addressed, higher needs start to appear. Individuals generally do not experience higher needs until they have completely addressed their current needs (Maslow, 1943).

McClelland (1987) built on the work of Maslow's hierarchy of needs. McClelland's Human Motivation Theory presupposes that life experiences lead to the acquisition of some needs. Individuals may, for example, develop the need to attain a certain level of success, or to be in a position of power and influence (McClelland, 1987). It is also argued that the characteristics of individuals are normally affected by their dominant learned motivator. At the core of this theory is the belief that in spite of people's age groups, cultural beliefs or gender difference, they all have three drivers that affect their motivation, but only one motivator is their dominant motivator (McClelland, 1987). An individual's dominant motivation driver is said to be affected by life experiences as well as cultural beliefs and value systems (McClelland, 1987).

Herzberg (1966), on his motivator-hygiene theory, indicates that there are two kinds of factors that have an effect on the motivation drivers of each individual; the extent of his effect differs for all individuals. This theory focuses on workplace satisfiers and dis-satisfiers. One of the factors that the theory makes reference to is hygiene factors. Hygiene factors are defined as those factors that people do not really place much importance on when they are not there, but may demotivate employees when they are taken away (Herzberg, 1966). These are essentially all those things that when taken away may have great impact on the satisfaction levels of employees, and may lead to them making attempts to have them reinstated (Herzberg, 1966). For example, employees may not show much appreciation of decent working conditions or certain benefits afforded to them, but may be highly demotivated when they realise that their working conditions are no longer at the standard they are used to or that certain benefits are taken away. The second one is motivator factors which are those things that, although satisfying people, when they are not offered, people's satisfaction levels do not change in spite of the fact that motivation levels may be affected (Herzberg, 1966).

Alderfer's (1969) ERG theory categorises individual needs into three. The first need according to this theory is the need for growth which includes all developmental activities aimed at facilitating an individual's career advancement (Alderfer, 1969). The second type of need described in this theory is the need to form relations with other people; this could be, for example, being part of a team at work (Alderfer, 1969). The third type of need is said to be the need for existence and this need addresses issues around well-being whether it be physical, emotional or otherwise (Alderfer, 1969). Alderfer believed that as higher needs are addressed, their intensity becomes stronger.

McGregor (1960) coined two contrasting theories on human motivation which he termed theory X and Y. Theory X presumes that there is a natural tendency among employees to be unmotivated and to not display a liking for their jobs. This type of attitude by employees leads to organisations adopting authoritarian leadership styles of management which promote micro-management (McGregor, 1960). The typical characteristic of employees according to this view is that they dislike working, avoid responsibility, and always need to be "spoon fed", have to be forced or threatened to do their job and always need to be enticed to be productive, with more of a "what is in it for me" type of attitude. There is little or no delegation at all in Theory X type of organisations and control remains firmly centralized. Theory Y on the other hand is about promoting an interactive type of management relationship that is de-centralized. It shares

an optimistic view that employees are generally happy, are self-motivated and creative, and they enjoy working with greater responsibility which allows them to work to their fullest potential. This view is encompassed by the belief that employees take responsibility and are motivated to perform to the best of their abilities, are self-directed, and work with little or no supervision, and generally enjoy their work.

2.6.2.2 Process theories

Skinner's (1953) operant conditioning theory informed the reinforcement theory. The reinforcement theory argues that when individuals are rewarded for certain behaviour, they are more likely to repeat that behaviour. On the other hand, when individuals are punished due to certain behaviour, they are less likely to repeat that behaviour. This theory essentially presupposes that reinforcement that results from individual behaviour is positive reinforcement, avoidance, punishment and extinction.

Vroom's (1964) expectancy theory indicates that individuals chose actions that they believe will yield positive results for them. For example, employees are more likely to put more effort into their work if they know that that they will benefit somehow that is the case when they do not see opportunities of yielding benefits.

Adams' (1965) equity theory indicates that individuals feel motivated when they believe that they are treated fairly and equitably relative to their efforts in comparison to others.

Locke and Latham's (1990) goal setting theory argues that individuals are more likely to work hard at achieving goals if these goals are specific and they can accept them and commit to achieving them. In essence, a combination of organizational support and the abilities of individuals can work together to ensure that goals are achieved.

The study has adopted this theoretical framework as it centres on motivation as a concept that can be applied to understand human behaviour within the workplace context. For the purpose of this research, the theoretical framework is applied in the context of "motivation to join graduate development programmes". This is because, although being part of similar developmental programmes, graduates might have different motivations for partaking in the programmes. For example, some graduates may have a keen interest in these programmes

because of the financial gains which they provide; while other graduates may be more motivated by the developmental benefits associated with these programmes. This theoretical framework may also assist with conceptualising the issue of employee retention as these theories provide a holistic view of differences inherent in individual motivations. The framework may also assist with conceptualising coaching and mentoring relationships as they address individual needs; this may potentially be linked to social needs which are afforded through coaching and mentoring relationships.

2. 7 Summary of chapter

This chapter has demonstrated that there is a positive relationship between workplace learning and graduate development programmes. Based on literature, it is evident that assumptions of workplaces as not being legitimate learning environments are imprecise. This is because continuous technological advancements, coupled with rapid organisational changes, necessitate the need for individuals to continuously learn; whether formally or informally. A further relationship between workplace learning and coaching and mentoring relationships was ascertained. This was done by demonstrating that while transitioning from university to work, graduates leverage on the skills and experiences of coaches and mentors who assist in developing their technical skills and social skills. The chapter also demonstrated the relationship between workplace learning and career progression. Literature suggested that in order to advance in their careers, employees engage in learning and development interventions to up-skill themselves and acquire new competencies. A further relationship between workplace learning and employee retention was ascertained. Literature indicated that employees are attracted to employers that invest in their development and career advancement rather than those not offering these opportunities. The last part of the chapter presented the theoretical framework of the study. Social learning theory and motivation theories were deliberated on in this section. Social learning theory was discussed in the context of coaching and mentoring, and motivation theories were discussed in the context of retention. The next chapter discusses the research design and methodology for data collection.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3. Introduction

The primary objective of this research study was to evaluate the relationship between research constructs as hypothesised. Essentially, the study intended to determine the existence of a positive relationship between workplace learning and graduate development programmes, coaching and mentoring relationships, career progression, and employee retention. Chapter Two of the research outlined the relationship between research constructs by using a rich body of knowledge from existing literature to validate these relationships. A theoretical framework was also outlined in Chapter Two with the aim of providing a conceptual focus for the study. Social learning theory and motivation theories were applied in this theoretical framework. In this chapter, the research design and methodology for data collection are discussed in order to illustrate how the relationship between constructs was ascertained. The chapter also discusses the appropriateness and advantages of the research methodology applied for this study.

3.1 Research methodology

According to Thomas (2010), research methodology can be defined as the resolution of research problems using a systematic approach. Methodology is important in research because it assists with defining and redefining problems. It also assists with formulating hypotheses, collecting, organising, and evaluating data. This in turn assists in making conclusions about a research phenomenon and testing the conclusions to determine if they fit the formulated hypothesis (Thomas, 2010). The methodology of a specific research can therefore be said to assist in constructing new academic theory and also contributing to existing literature (Thomas, 2010). Methodology involves ascertaining the relationship that exists between research variables by using statistical techniques (Thomas, 2010). This involves the behaviours applied, as well as instruments that are used to select and construct research techniques (Thomas, 2010). According to Thomas (2010), the following can be seen to encompass research methodology: analysing previous written information in the form of documentation, gathering information through observation, and through various kinds of interviews.

3.2 Research paradigm

Researchers generally hold different belief systems around their interactions with their surroundings. From this perspective, it can be said that researchers have different approaches to conducting research (Weaver & Olson, 2007). However, a researcher's actions are governed by a certain set of rules and standards which are known as a research paradigm (Weaver & Olson, 2007). A research paradigm can be defined as a broad perspective or view relating to a certain research phenomena (Taylor, Kermode, & Roberts, 2006). According to Weaver and Olson, they argue that "paradigms are patterns of beliefs and practices that regulate inquiry within a discipline by providing lenses, frames, and processes through which investigation is accomplished" (Weaver & Olson, 2006: 460).

This study adopted a triangulation research approach to provide an evaluation of workplace learning and graduate development programmes for Black engineers. The triangulation approach involves the adoption of combined research methods, i.e. using one or more research methods in a single study (Schneider, Elliott, Lo-Biondo-Wood, & Haber, 2003; Taylor, Kermode, & Roberts, 2007). Using both a qualitative and quantitative approach to research is necessary to provide an evaluation of workplace learning interventions in different organisations. The quantitative approach is based on the positivist paradigm which involves logical positivism (Weaver & Olson, 2006). This approach focuses of factual accounts involving absolute prediction, measurement, logic, and truth (Halcomb & Andrew, 2005; Cole, 2006). Central to the philosophical view of this approach is that there exists one objective truth to any research phenomenon. As a result of this, the approach is founded on the premise that the validity of research depends on its ability to provide empirical proof that correlates with the results of the study phenomena that the research seeks to address (Hope & Waterman, 2003).

However, using such rigid approaches to investigating phenomena limit a researcher's ability to further investigate the social and human aspects of the research (Weaver & Olson, 2006). As a result, this study has also adopted the qualitative approach too, and therefore integrated it into, the research design (Weaver & Olson, 2006). The qualitative study approach is based on the interpretive paradigm; this paradigm holds the view that there are many realities and truths with any research phenomena (Weaver & Olson, 2006). The interpretative paradigm focuses on the human and environmental aspects of a research phenomenon and therefore provides a

holistic perspective to approach the research which is more applicable to the workplace studies (Weaver & Olson, 2006). In addition, the interpretative paradigm ensures that the views and concerns of research participants are taken into consideration (Cole, 2006). Integrating both the positivist and interpretative paradigms ensures that while a study may provide scientific data drawn from statistical information, it may also provide the emotional and psychosocial data around factors which may influence the development of black engineering graduates in workplaces.

In view of the explanation provided in the above paragraphs, this study adopted both the positivist and interpretive research paradigms.

3.2 Research design

According to Thomas (2004) and Creswell (2013), a research design is defined as a plan on how data will be collected and analysed. A research design also provides a step-by-step presentation of the processes involved in carrying out research. The research design process generally includes five common steps. These steps include the selection of the research problem, the research method, the collection and analysis of data process, and finally the report writing (Thomas, 2004). Essentially, research design focuses on planning and structuring the investigation strategy of the research study in order to collect research data (Thomas, 2004; Creswell, 2013). This research adopted a case study research design using the mixed methods approach. According to Creswell (2013), a case study ensures flexibility as it allows the researcher to investigate the social events while also taking into account empirical occurrences. Case studies also ensure that multiple sources of information are used to address empirical inquiry and social phenomena (Creswell, 2013). In this study, qualitative and quantitative approaches have been employed at various companies that implement graduate development programmes because both research methodologies have important advantages for this research.

3.2.1 Justification for the choice of research strategy/approach

Qualitative research gives voice to the subject therefore it has been applied in this study. It has also been applied because research participants were the main source of the research findings. Malterud (2001) asserts that when applying the qualitative research approach, the researcher must ensure that the collection, arrangement and construction of data is done in a systematic

way. An advantage inherent in qualitative research is that it is interactive and allows participants to express their opinions about the study, and therefore ensures that through interacting with research subjects, the researcher is able to explain phenomena around the world (Davis, 2007). The quantitative research approach on the other hand focuses on interpreting research phenomena statistically (Muijs, 2011). The advantage of this research approach is that the relationship among variables is tested objectively and therefore ensures that results are scientific (Creswell, 2014). This approach is particularly important for this research because it ensures that there is little possibility of bias as it utilises statistical inferences which cannot be manipulated. In addition, the results from a quantitative study provide a high level of reliability and objectivity which may not always be present with qualitative studies.

3.3 Mixed methods research

A mixed method approach to research involves various steps in a study; these steps include the collection and analysis of both qualitative and quantitative approaches in one study (Onwuegbuzie & Johnson, 2006). Combining the two research approaches presents advantages, as a researcher is able to better understand a particular research phenomenon than would be the case if one research approach was applied (Onwuegbuzie & Johnson, 2006; Creswell, 2014). Halcomb & Andrew (2005) also maintain that using more than one research approach assists with providing a holistic view to a research problem and also ensures that the research findings have depth and high quality. However, as a research approach, mixed methods research presents some problems (Onwuegbuzie & Johnson, 2006).

It is argued that when a researcher embarks on a mixed-method study, it may be challenging to represent the experiences of research participants using both narrations and numerical data (Onwuegbuzie & Johnson, 2006). In addition, it may also be a challenge to integrate various research approaches into one study and it may be particularly difficult to legitimise a study by ensuring that research findings can be confirmed and are credible (Onwuegbuzie & Johnson, 2006). Despite these challenges, mixed methods approaches can assist a researcher to produce data that is reliable and valid and also ensure that the formulated hypothesis is adequately tested using both narrative and statistical analysis to provide better understanding of phenomena (Abowitz & Toole, 2010)

3.4 Priority

Priority looks at the weight a researcher gives to a specific research approach i.e. qualitative or quantitative or even both (Morgan 1998; Creswell 2003). However, it is often not an easy task for a researcher to decide on the research design to adopt, and is solely based on the study audience, the intention of the study, or even a researcher's interest (Creswell, 1998). In this research, priority is on the quantitative approach because the quantitative data collection process will be addressed first, as it will form the major aspect of the study because of the large sample size. Moreover, this decision was made because of the purpose of the research which is around examining graduate development programmes and how they contribute to workplace learning. This therefore means the research has intended to interpret data using statistical analysis.

The qualitative part of the study follows the quantitative aspect of the study in terms of priority. This is because this aspect of the study forms a smaller component and will therefore be addressed in the second phase of the research. Morgan (1998) argues that the priority which a researcher attaches to a specific research approach depends mostly on the research question, as well as the objectives of the research. It may happen that during each phase of the research, the priority is changed and the researcher decides to attach priority to both approaches. There is the flexibility to either choose the priority at the beginning of the data collection process, or later on during this process (Morgan, 1998).

3.5 Pilot Study

A pilot study is a mini study which takes place before the actual main study; it is also referred to as a feasibility or "dry-run'' study (van Teijlingen & Hundley, 2001). A mini study can also be carried out to test the reliability and validity of a research instrument. Pilot studies are crucial in the research design process although they may take up a lot of time before the actual study is conducted (van Teijlingen & Hundley, 2001). However, carrying out a pilot study is not a guarantee that the main study will be successful, although the likelihood of success is there (van Teijlingen & Hundley, 2001). Conducting a pilot study before commencing the actual study can also equip other researchers with insights that they may not necessarily have had about a certain research phenomena (van Teijlingen & Hundley, 2001). The fact that pilot studies may present unanticipated problems which may result in too much time invested by the researcher, the advantage is that the researcher can proactively deal with whatever challenges

may be encountered during the actual study, and may actually save money, effort and time (Mason & Zuercher, 1998).

During a pilot study, a researcher can test whether a measuring instrument is valid or not and whether it will be appropriate to ask certain questions in the interview or not (Mason & Zuercher, 1998). Moreover, as a result of conducting a case study, a researcher may be able to liaise with other academics or experts in order to get their inputs on the appropriateness of the research measuring instrument (van Teijlingen & Hundley, 2001). A pilot study consisting of 20 participants was conducted for this study before commencing with the main study, with the aim of testing the reliability and validity of the research instruments. The 20 participants included graduates, senior managers and mentors, reflective of the total research population. The graduates were selected based on gender, and two graduates were selected per industry. This group therefore comprised 10 graduates in total who were used to test the reliability and validity of the quantitative research instrument. The remaining 10 participants included senior managers and mentors of the various industries and they were used to test the reliability and validity of the qualitative research instrument.

3.6 Population

A research population is defined as the total number of people or objects that have similar characteristics and may assist a researcher to solve a research problem (Frank & Snijders, 1994). In essence, research populations are large and cannot be used to test the validity and reliability sought during the research process and for this reason, researchers apply various sampling techniques to get to appropriate numbers of research participants (Frank & Snijders, 1994; Marshall, 1996; Sharma, 1997). This study specifically used an accessible population, described as a type of population to which a researcher can apply conclusions on based on accessibility (Frank & Snijders, 1994). It is a small group of the total research population and is referred to as the research study population (Frank & Snijders, 1994). Researchers normally draw their research samples from the accessible population (Frank & Snijders, 1994; Marshall, 1996; Sharma, 1997).

3.6.1 Qualitative study population

Senior managers from five different organisations, cutting across different industries as well as mentors who are based in the Johannesburg area, were utilised as respondents for the study. A

population size of 50 participants was utilised from these industries which included manufacturing, petrochemical, fast-moving consumer goods (FMCG), telecommunications and government parastatals.

3.6.2 Quantitative study population

Research participants for the quantitative aspect of the study comprised Black engineering graduates who came from five different organisations cutting across different industries and were based in Johannesburg. The research population of 200 participants was derived from the total number of black graduates at each company who are part of the graduate development programmes.

3.8 Sampling Design and Procedure

3.8.1 Sampling frame

A sampling frame is a collection of information from which a sample is drawn, for example this could be people's names, their contact details, and any other relevant information about them (Turner, 2003). The sampling frame assists the researcher with information that may allow choosing specific individuals from the study population to partake in the study (Turner, 2003). Therefore, the sampling process involved choosing an appropriate group that represented the total research population.

3.8.2 Research sample

A sample is a small research group taken from the total research population that the researcher chooses to participate in the research study (Tejada, Raymond, & Punzalan, 2012). A sample that is based on people consists of a group of individuals who are chosen to be research participants from the larger research population (Tejadan *et al.*, 2012). Therefore the sampling process involves choosing an appropriate group that represents the total research population (Tejadan *et al*., 2012).

3.8.2.1 Qualitative study sample

From a population size of 50 participants, this study used a sample size of 10 participants. Moreover, because of the in-depth, face-to-face interaction with the participants a sample size

of 10 participants was representative of the views of the total population. Marshall (1996) argues that a sample size is said to be appropriate if it can adequately address the research question.

3.8.2.2 Quantitative study sample

For the quantitative part of the research, this study utilised a sample size of 130 participants; this number was determined using Slovin's formula below:

$$n = \frac{N}{1 + Ne^2}$$

In this formula *n* represents sample, *N* represents population size and *Ne* represents the margin of error. To determine the size of the sample, the researcher should take into account the population size, the margin of error which ascertains how much higher or lower than the population mean the sample mean can fall, as per the researcher's preference (Tejadan *et al*., 2012). In addition, the confidence level should be taken into consideration. This has to do with the confidence that the researcher has around the mean falling within the confidence interval. Generally, the confidence levels should be at 90%, 95% and 99% (Tejadan *et al.*, 2012). Lastly, it is important to consider the standard deviation. This has to do with how much variance a researcher expects in research responses (Tejadan *et al.*, 2012). It is advisable to use Slovin's formula to estimate the proportion of a population when the confidence coefficient is at 95%; moreover, it is optimal when the unknown population proportion is believed to be close to 0.5 (Tejada *et al.*, 2012). Sampling for this study was therefore determined on a confidence level of 95% and a 5% margin of error. Based on this formula, the sample size is calculated below using a population size of 200 research participants:

$$\text{Sample} = \left(\frac{200}{1 + 200} \times 0.05^2\right) = \mathbf{130}$$

3.8.2.3 Sampling procedure

According to Teddlie & Yu (2007), two sampling methods exist in research and these are referred to as non-probability and probability sampling. A probability sample is one in which each person in the targeted population can equally be afforded an opportunity of being chosen

to participate in a research study (Teddlie & Yu, 2007). An advantage of using a probability sample is that it gives the researcher the best chance to create a sample size that represents the entire research population (Teddlie & Yu, 2007). A non-probability sample on the other hand occurs when some people have a greater, but unknown, chance than others to be selected as research participants (Teddlie & Yu, 2007). Advantages of using a non-probability sample are that they are quick, inexpensive and convenient. Although the two sampling methods present their own unique advantages, this research study has adopted the non-probability sampling method. This is because the size of the population necessitated the need for the researcher to select sample members on the basis of accessibility and personal judgment, due to time and cost constraints.

The non-probability sampling techniques that were adopted in this study are purposive, snowball and convenience sampling. Purposive sampling is applied when a researcher purposively chooses a sample based on its relevance to the research (Marshall, 1996). This is because purposive sampling picks out the sampling population based on certain criteria which is important and relevant for a particular study. The sample members for the qualitative study were purposefully selected because of their characteristic of being mentors and senior managers of Black engineering graduates. The researcher requested a contact list of mentors and senior managers from human resource representatives, from participating organisations. Emails with the participation information sheet and consent form were sent to all mentors and senior managers requesting their participation in the study. Sample members were randomly selected based on the consent forms sent back, as well as the availability of participants. Sample members for the quantitative study were selected based on the total population of engineers enrolled on the graduate development programmes at the five organisations. As with the qualitative sample, the researcher requested a contact list of all black engineering graduates from human resource representatives. Emails with the participation information sheet and consent form were sent to all graduates. Sample members were randomly selected based on the consent forms that were sent back to the researcher. In essence, both these sample groups were purposefully selected in order to address the objectives of the study.

Snowball sampling is a term used for a sampling procedure that allows the sampled units to not only give information about themselves but about others as well (Frank & Snijders, 1994). An advantage of snowball sampling is that it allows researchers to be introduced to other

research respondents not known to them. This sampling technique assisted with accessing research participants from the surveyed industries through using company officials as gate keepers (Frank & Snijders, 1994). The researcher applied snowball sampling by requesting contact lists of the targeted population from human resource representatives at the five organisations. Once these lists were available, the researcher contacted individuals on the list and in this process also requested information of additional individuals not on the lists who may have an interest in the study.

In convenience sampling, research subjects are chosen to participate in the research study because they are close to the researcher and therefore are conveniently accessible (Marshall, 1996). Research participants are selected purely because it is easy for the researcher to mobilise them to take part in the study without considering whether or not they represent the entire research population (Marshall, 1996; Anderson, 2001; Teddlie & Yu, 2007). Many researchers are prone to utilising this sampling technique due to the fact that it is quick and easy and may also not have negative financial implications. It is a whole lot easier to use convenience sampling than any other probability techniques because there are few rules on how the samples can be collected. It is also cheaper and time effective to use convenience sampling as would be the case in carrying out probability sampling (Marshall, 1996; Anderson, 2001; Teddlie & Yu, 2007). This facilitates a convenient process for the researcher to collect a sample size more quickly and is cheaper. In addition, gathering a sample group from convenience sampling may also assist the researcher to get access to information that they would not have accessed had they carried out probability sampling. This is because probability sampling involves formalities in accessing the lists of subjects in the population group (Marshall, 1996; Anderson, 2001; Teddlie & Yu, 2007). The researcher has applied this sampling technique by utilising sample members who are accessible and have shown interest in the study by signing the consent forms.

3.9.3 Measurement instruments for selected constructs

Creswell & Miller (2000) and Annum (2015) state that how reliable and valid research instruments are, depends on whether a research instrument is suitable or not. This research used a semi-structured interview guide for the qualitative part and a structured questionnaire for the quantitative part of the study. A questionnaire is a systematically prepared document with a set of questions which are deliberately set to get information on a research phenomenon for the purpose of collecting data (Creswell & Miller, 2000). Structured questions are questions that

give a researcher a certain level of guidance and control on how they are answered. These are normally short questions requiring the respondent to answer yes or no or may be in multiple choice form (Annum, 2015). The semi-structured interview is the less formal type of interview. Although there might be a set of questions, the researcher freely modifies the sequence of questions, the wording and sometimes provides clarity thereby allowing the respondents to freely express their views (Annum, 2015).

According to Kingsbury (2012), Cronbach's Alpha is appropriate for testing the reliability of the measuring instrument when determining the inter-correlation of research variables for the same construct. A research construct is defined as the outcome sought by the researcher for conducting a specific study. The Cronbach Alpha is affected by the independent variable, i.e. when the inter-correlations of the research items increase, the Cronbach Alpha also increases and when the opposite occurs, the Cronbach Alpha performs likewise (Kingsbury, 2012). In order to ensure the reliability of the measuring instrument for the quantitative part of the study, the following scales were utilised:

3.9.3.1 Generic competencies for graduate engineers

This study used 10 items adopted from a scale originally developed by Quek (2005), the scale was originally measured using 44 items. Each item sought to measure the importance attached to each element of generic competence for work performance. This measurement was done on a three-point Likert scale in order to attach the level of importance of generic competencies required to complement the tertiary training of students in workplace learning. Research participants were requested to indicate the level of importance they attach to each generic workplace competence using responses such as, 1- not important; 2- fairly important; and 3- important. The Cronbach Alpha was at 0.786 with all 44 items measured, when re-tested using the 10 items the Cronbach Alpha was at 0.476. 7 items were removed from the scale in order to improve the reliability score. The scale with 3 items came to 0.705 which indicates good internal consistency. According to Hyman, Lamb & Bulmer (2006), an advantage of using pre-existing questions is that they will have been tested for reliability at the time of first use.

3.9.3.2 Workplace learning

This study used 6 items adopted from a scale originally developed by Bauer, Festner, Gruber, Harteis & Heid (2004). The original scale was measured using two parts which are supportiveness for learning and epistemological beliefs scales (Baueret *et al*., 2004). The epistemological beliefs scales included 22 items from four sub-scales which included abstract and concrete competencies; learning character, ambiguity tolerance and objectivity of facts. Respondents were requested to relate their responses to their workplaces using a five-step Likert scale formatted questionnaire. The supportiveness for learning construct was an 11-item scale; 3 items from this scale intended to measure the extent to which learning was taking place at work from colleagues framed as "workplace learning''; 4 items intended to measure the extent to which learning occurred through non-work related instances, and 5 items measured the extent to which "learning supportive" situations affected the learning process. Respondents rated learning from others in the workplace. In this study only the workplace learning scale was considered, the Cronbach Alpha for workplace place was at 0.891 from the original scale with all 11 items added. It was 0.605 when re-tested with 6 items included which indicates good internal consistency.

3.9.3.3 Employee Retention

This study used 3 items adopted from a scale originally developed by Porter, Steers, Mowday & Boulian (1974). Employee retention was a 10-item scale, participant responses were in a 5-step Likert scale format which ranged between strongly disagree and strongly agree. The Cronbach Alpha was 0.745 with all 10 items included, when re-tested with 3 items, the Cronbach Alpha was at 0.975 which indicates good internal consistency**.**

The above instruments were essential for this study as they ensured that a reliable measuring instrument was utilised to collect quantitative data which was drawn from the questionnaire used by black engineering graduates. The validity of the measuring instrument that was used to collect qualitative data was supported by the empirical literature on workplace learning and graduate experiences. The pilot study conducted also assisted in framing the interview guide in order to facilitate semi-structured interviews. Senior managers and mentors formed part of the interview process, and because of their small size of 10 out of a population size of 50, an in-depth, face-to-face interaction was required with them in order to adequately document their

narratives and inputs on graduate development programmes. Another advantage of using semi-structured interviews is that they allow the researcher to explore the responses of participants by asking for clarification or additional information thereby getting more information for the research study. These kinds of interviews also ensure that the researcher has the freedom to be friendlier and sociable and therefore more interactive with research participants (Jose, 2009).

3.9 Validity and Reliability

3.9.1 Validity

The validity of a measuring instrument is very important for any research. The validity of a measuring instrument is referred to as the extent to which a measuring instrument can measure that which it is intended to measure (Healy & Perry, 2000; DeVaus, 2002). Validity can be assessed using criteria which involves three approaches namely the content, construct validity, and criterion (DeVaus, 2002). The approach which was applied to develop the measuring instrument for this study was the criterion validity approach. This approach is constructed through a comparison of a new measuring tool to one that is already in existence and has measured the same concept as the one intended to be measured by the new tool (DeVaus, 2002; Schneider *et al*., 2003). This research utilised standardised instruments used in previous studies and found in current published literature in order to generate fit research measuring instruments for the quantitative and qualitative aspects of the research. This approach assisted in testing the rigor of these instruments (DeVaus, 2002). Validity is set to determine the measure or truthfulness of the research results. This means, for example, a question could be posed about how effective a research instrument/technique is in answering the research question. Generally, researchers often seek to ascertain the validity of an instrument by posing various questions which have been obtained from the studies of other scholars (DeVaus, 2002). Essentially, an extensive review of existing literature was done in order to develop measuring instruments in the form of a questionnaire and interview guide.

3.9.1.1 Qualitative validity

This study focused on existing literature to generate a semi-structured interview guide. According to Ihantola & Kihn (2011), the type of validity required for qualitative research is referred to as contextual validity. This type of validity focuses on the credibility of the evidence presented in the findings during a case study research (Ihantola & Kihn, 2011). When there is

validity demonstrated from a measuring instrument, a researcher is able to present a convincing account of the narratives shared by research participants (Ihantola & Kihn, 2011). However, there are existing threats with contextual validity. For example, if previous literature has an element of bias or limited knowledge, it may result in illogical structure of the research design and other research aspects (Ihantola & Kihn, 2011).

3.9.1.2 Quantitative validity

Current literature assisted in extracting data for the quantitative part of the study. This literature informed the development of a structured questionnaire and measured that which it was intended to measure, as informed by the work of scholars who have demonstrated an interest in a similar field of enquiry. Moreover, quantitative research is founded on internal and external validity (Ihantola & Kihn, 2011). In internal validity, a change that occurs in the independent variable triggers a change for the dependent variable (Ihantola & Kihn, 2011). Internal validity also focuses on assessing the logic that is apparent between a research study and existing academic theory (Ihantola & Kihn, 2011). Threats inherent in internal validity may include limited knowledge and statistical testing mistakes, and illogical reporting of correlations. External validity on the other hand has threats which may be environmental, time, or are population related (Ihantola & Kihn, 2011). Environmental validity is concerned with whether generalisations can be drawn from a research population or not. Time validity centres on the ability of a research study to be applied across different time periods. Population validity is about whether generalisations can be made from a population group of another research study or not (Ihantola & Kihn, 2011).

3.9.2 Reliability

A research study is said to be reliable when the results are consistent over time and remain the same when a similar type of research method is applied (Creswell & Miller, 2000; DeVaus, 2002; Schneider *et al*., 2003). In essence, instrument reliability is concerned with whether research findings can be repeated and replicated over time (Creswell & Miller, 2000). It is further argued that when a stable measure is considered (for example, a questionnaire), the results should be similar (Creswell & Miller, 2000). This means that high stability of a measuring instrument equates to a good reliability level of a measuring instrument because findings can be repeated. It also implies that the questions posed through the measuring

instrument are more likely to produce responses that are consistent with those that have been given in earlier similar studies (DeVaus, 2002).

3.10 Data collection

3.10.1 Primary data

In terms of investigating the effectiveness of the graduate development programmes towards the development of engineering professionals, this research used in-depth, face-to-face interviews that were facilitated by semi-structured interview guides to collect data from senior managers and mentors. Upon obtaining the list of graduates from the HR department of participating organisations, the researcher contacted the graduates via telephone calls and emails in order to secure their participation. Questionnaires were administered to accessible graduates in order to collect quantitative data, and phone calls were also made to assist graduates who could not complete the questionnaires that were sent via emails. Interview sessions with senior managers and mentors were conducted and recorded for the purpose of collecting qualitative data. The recorded interviews were thereafter transcribed using online transcription software called NCH Software.

3.10.2 Secondary data

Data pertaining to how the Graduate Development Programmes contribute to workplace learning was collected through the use of journal articles, reviews, books and other relevant literature.

3.11 Data Analysis

3.11.1 Qualitative study

This study employed a thematic data analysis in order to analyse data collected for the qualitative study. Thematic analysis is a "method for identifying, analysing and reporting patterns (themes) within data" (Braun & Clarke, 2006: 79). This type of analysis is said to aid in providing a detailed analysis of qualitative data, and also provides structure in the delivery of complex narrated information (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). An added advantage of analysing data thematically is that information can be summarised and put together in such a way that it reflects a variety of ideas in a structured format (Braun & Clarke, 2006).

3.11.2 Quantitative study

For the quantitative study, the Statistical Package for the Social Science (SPSS) was used. SPSS is a comprehensive system for analysing data, it can utilise any file type to generate various data forms such as charts, tabulated reports and statistical analysis (Norusis, 2008).

Both descriptive and inferential statistical analysis was employed. Descriptive statistics are used to summarise data under study. Some descriptive statistics summarise the distribution of attributes on a single variable while others summarise the associations between variables (Creswell, 1998). This study used a measure of correlation called the Spearman's rho correlation (Creswell, 1998). The Spearman's rho correlation is used to determine the level of relationship between the hypothesised variables (Creswell, 1998).

3.12 Ethical considerations

Ethics encompass the guidelines for how individuals should conduct themselves in relation to behaviour that is deemed to be acceptable or unacceptable. Ethical considerations are important in research because they ensure that the information presented in academic studies is not wrongly interpreted, false, or fabricated in any way so that the legitimacy of a research project is not questioned (Smythe, 2000; Cacciattolo, 2015). Ethics also promote fairness, respect and trust between a researcher and research participants, while ensuring that the researcher takes accountability for the research project (Smythe, 2000; Cacciattolo, 2015). This research adhered to the ethical considerations by maintaining the privacy and confidentiality of the research participants as well as upholding the data integrity of the research as a whole. It was communicated to the research participants that participation in the study is voluntary and that their anonymity and confidentiality will be maintained. Moreover, an ethics clearance certificate from the University of the Witwatersrand was obtained.

3.13 Summary of chapter

This chapter presented the research design and methodology. The researcher provided supporting accounts from literature on the appropriateness of the research design employed for this study, as well as the sampling and data collection procedures. Essentially, in this chapter, data was obtained from research participants who provided information through the use of questionnaires and semi-structured interviews. The researcher analysed the qualitative research

data under themes and the quantitative data was analysed statistically. The following chapter presents both the quantitative and qualitative findings of the research.

CHAPTER FOUR

DATA ANALYSIS

4. Introduction

This chapter presents the findings resulting from the data gathered following an evaluation of graduate development programmes and workplace learning. The presentation of the findings begins with an analysis of qualitative findings which is followed by a quantitative data analysis. Essentially, the qualitative data is presented using thematic analysis and the quantitative data is reported statistically. Both data sets have been found to be mostly consistent with discussions that were detailed in the literature review in Chapter Two.

4.1 Qualitative data analysis

4.1.1 Demographics

Table 4.1: ***Distribution by industry type, race and gender***

Industry	Race				Gender	
	A	C	I	W	M	F
Manufacturing				2	2	
Petrochemical		1		1	2	
Fmcg	1		1		1	1
Government Parastatal	2				2	
Telecommunications		1		1	1	1
Sub-total	3	2	1	4	8	2
Total	10				10	

Table 4.1 indicates that there were 2 qualitative research respondents from each industry type. The table also indicates that 3 of the respondents were African while 2 were coloured, 1 was Indian and 4 were white. Moreover, the table shows that there were 8 male respondents and 2 female respondents.

The information from the semi-structured interviews was recorded using an audio recorder. The researcher played the audio recordings after completion of the interviews in order to make sense of the responses before analysing the data thematically. The audio recordings were

transcribed using an online transcription software called NCH software. The transcribed data was thereafter coded into themes. The researcher also sought the assistance of a language editor who edited and proof-read the dissertation. At the beginning of the research, the researcher made a commitment to potential research participants to uphold their anonymity and confidentiality when reporting the findings. Research participants signed a consent form to this effect. Therefore, to uphold the anonymity and confidentiality of research participants, information that may lead to them or their respective organisations being identified was removed from this report and will not be disclosed throughout the data analysis process.

4.1.2 Results

Nine themes were developed from the responses obtained from the sample members. Themes represent linked information that has the same meaning related to research questions which kept recurring during qualitative data analysis (Duriau, Reger, & Pfarrer, 2007).

Theme 1: Companies utilise career exhibitions, university visits and career websites to recruit engineering graduates

When asked about how they recruit engineering graduates for their development programmes, respondents narrated different ways in which their respective companies source the best talent for their programmes.

Respondent one indicated that they use career fairs, exhibitions and industry-related shows to inform prospective employees and trainees of the opportunities available at their company. They also organise university visits where they interact with engineering students about employment opportunities available at their company. Moreover, they offer bursaries to learners at high school level who have an interest in studying engineering. Thereafter they use this bursary holder pipeline to recruit most of their trainees. Respondent one had this to say about the recruitment of graduates into their programme:

"We strive to build a rich pipeline of talent from as early on as possible, that is why we invest substantial amounts in the bursary scheme"

Respondent two indicated that they have a company website which lists all their employment opportunities. Over and above this, they get applicants' CVs by word-of -mouth because the company has an open-door policy which allows interested applicants in the local community to drop off their CVs personally at their recruitment building. Respondent three mentioned that

the recruitment process for graduates is the responsibility of the training department together with the recruitment team. Technical and engineering managers are normally invited for interviews once candidates have been sourced through various means.

Respondent five indicated that their recruitment strategy involves visiting universities to tell students about their employment opportunities. This they use as *"a brand building initiative to put our company brand out there"*. They also use their website to source potential employees. Respondent five also shared that they actively use social media to inform prospective employees of their employment offerings. Respondent six indicated that they utilise their training department to visit universities and also get CVs when they have career exhibitions and industry-related shows. The responded also indicated the following:

The company is involved in sponsoring of various talent sourcing initiatives such as The Rising Stars which give platform for organisations to exhibit their offerings and attract talent".

This respondent alluded to the important role that their recruitment website plays in helping them to source potential graduates in training. The importance of the recruitment website was also shared by respondent seven who alluded to it being an instrumental tool in their recruitment strategy. Respondent eight mentioned that university visits and career exhibitions were also used at their company to source potential talent for their graduate development programme. These recruitment strategies were similarly shared by respondents nine and ten who also indicated that they use university visits, their website and industry shows to market their company to prospective employees.

Theme 2: Graduate development programmes are effective in facilitating talent management and succession planning

Respondents were asked to share their views on the effectiveness of graduate development programmes for their respective companies.

Respondent one indicated that they view their programmes as effective when compared to other companies in the same industry. This respondent mentioned that they always try to improve on their programmes by benchmarking with other companies. Respondent two indicated that many trainees join their company without any experience at all and they soon do great work for them in their various business operations, which therefore confirms that their programme is indeed effective. The respondent had the following to say:

"I personally regard our programme as an accelerated development programme because we rotate our graduates across different functions to give them a holistic experience of the business"

Respondent three mentioned that their programmes are effective because most of their graduates proceed to esteemed and large organisations once they complete the programme. Trainees are also afforded the opportunity of rotational development which allows them exposure to various areas of the business. Respondent four mentioned that trainees get involved with major projects that help with their engineering and business competencies. Over and above this, the programme gives graduates enough exposure to the industry and allows them to gain technical skills. According to this respondent:

"The engineering symposium that we run annually gives the graduates an opportunity to showcase their projects, this is good for their exposure and for us as a business"

Respondent five indicated that their programme is intended to develop graduates into managers over a period of three years, and therefore is very effective because graduates are exposed to all spheres of the business. Respondent six mentioned that their programme improves each year and is effective in meeting business priorities, especially in the manufacturing environment where continuous improvement is crucial for business continuity. Respondent seven added that the programme is particularly effective because they leverage on it to source and develop strong engineering candidates. This gives the company a rich pipeline of talent. This respondent indicated that their programme is effective as they use it for talent management and succession planning so that they can have a ready-made pool of competent engineers. This respondent indicated the following:

"After the 24 months of having gone through the programme, we absorb the graduates into permanent positions, this helps with our succession planning"

Respondent eight mentioned that there is always room to improve but shared that their programme was sophisticated and facilitated talent management. Respondent eight also indicated that it takes longer for one to really grasp the essence of the information technology function and there were concerns about the length of the graduate programme. This respondent

mentioned that currently their trainees are in the programme for 24 months and this could be increased to at least 36 months to ensure that they acquire all the necessary competencies.
Respondent nine indicated that the programme assists them with talent development and succession planning. This also allows them to do manpower planning more effectively and gives them the competitive edge in staying proactive. However, the respondent mentioned that although some graduates are strong, others need more time before they are fully competent to take on senior roles. Respondent ten mentioned that their programme is very effective in terms of knowledge transfer and succession planning. This respondent indicated that the programme is effective as it benefits both their company and the trainees that they hire in the programme. They build a pool of talent which assists the communities around them by affording young people experiential learning who also get to benefit because they acquire industry skills and also are remunerated for it. This respondent indicted the following:

"We are very accessible to the community around us because people literally walk in into our recruitment building to drop off their CVs for available opportunities"

Theme 3: Coaching and mentoring assists in the knowledge transfer process

All respondents were unanimous in agreeing that coaching and mentoring does indeed drive workplace learning.

Respondent one stated that trainees can learn more from senior and more experienced people within the organisation. This respondent mentioned that mentoring can also assist with the socialization and integration process of on-boarding new employees. This respondent indicated the following:

"We normally allocate all our graduates a mentor from the time that they start the programme with us. They are also evaluated bi-annually for any development gaps"

Respondent two mentioned that in their company, they allocate a coach and mentor to all of their graduate trainees. The respondent mentioned that the coach is for a specific task or competence that must be learned, and a mentor is lifelong.

Respondent three mentioned that although mentoring drives workplace learning, people learn better by doing the job. In addition, this respondent indicated that trainees are able to gain leverage from coaching and mentoring relationships because they keep them in contact with experienced people. Respondent four shared the same views about coaching and mentoring in that they believe that it is crucial in order to adequately develop graduates. Respondent five mentioned that as many people as possible are required in order to develop graduates, hence allocating both a coach and a mentor is important. This respondent indicated the following:

"In our organisation, a graduate is allocated both a coach and a mentor. The coach assist with the task specific duties, while the mentor is more long term until the graduate completes the programme"

Respondent six indicated that mentoring and coaching are both crucial processes for knowledge transfer. Respondent seven mentioned that learning in the workplace should happen every day because when employees stop learning, they get trapped in doing monotonous and boring work. Respondent eight indicated that it is important to not only depend on class room learning, as learning from others is also critical. Respondent nine mentioned that mentoring is a way to drive workplace learning because more experienced employees can teach junior and less experienced employees. Respondent ten mentioned that trainees need to be coached and mentored in order to be guided and equipped with the necessary skills. Once they have this kind of support, learning becomes easier.

Theme 4: Race and gender affect coaching and mentoring relationships

When a question was posed to respondents about their views concerning race and gender dimensions, and how these play out in everyday relational interactions among graduates and their coaches and mentors, they voiced different views.

Respondent one mentioned that race and gender should not be a deciding feature in the coaching and mentoring relationship. However, because of the workplace dynamics in South African workplaces, race and gender play a critical role in any relationship at work. This responded had this to say:

"Race will always be a burning issue in South African companies because it is a societal issue by its nature, we try hard to address any issues relating to racial and gender discrimination"

Respondent two mentioned that measures should be put in place to manage race and gender relations because their company has a mentor committee which allocates trainees to mentors based on the engineering discipline and not on race or gender. Respondent three indicated that race is always an uncomfortable topic in South Africa as a whole. This respondent mentioned that gender is also an issue especially in their industry. This respondent went further by mentioning that, in his company, there are issues and disagreements with appointing based on race, but that he personally believes it is good to have various racial groups within the company. This respondent mentioned the following:

"Our industry is still very much dominated by males, but I believe that we will slowly get there because there are a lot of young women who are now studying engineering"

Respondent four shared a view that their company is committed to its transformation policy and they are quick to address any issue relating to race and gender as a high priority. Respondent five highlighted that South Africa as whole is a very race-sensitive nation. This respondent mentioned that race or gender should not be an issue in coaching and mentoring relationships as long as coaches and coachees, as well as mentors and mentees, understand their role in the relationship. Respondent six indicated that there will always be misunderstandings in all work relationships but these should be job specific and not based solely on race and gender differences. Respondent seven indicated that race is sometimes an issue; there are some graduates who complain that they do not receive adequate support from the mentors because of their race. This respondent also mentioned that their company normally addresses such issues with their mentor committee. Also, gender remains an issue for them because they are still a male-dominated company. The respondent mentioned that all cases of racial and gender discrimination are handled on their merit. According to this respondent:

"The company has introduced a platform for us to address any issues relating to racial concerns, I think our EE committee is well run. I am not saying it will solve all our problems, but it is a start".

Respondent eight indicated that in their industry, it is always difficult to source black information technology graduates so the pool is effectively small. This becomes a challenge especially when they are required to meet their employment equity targets. This is, in a way, the same for black female graduates. However, over the years, the respondent did mention that their company has been aggressive in doing targeted selection especially for black graduates. Unfortunately, the culture is still pretty much white-male dominated. Respondent nine mentioned that race and gender are always concerns in all South African organisations. This respondent indicated that these issues need to be addressed because every person has the potential to be great; they just need a certain level of support to get there. Respondent ten mentioned that race and gender are points of contention, however they agree that because their company has a lot of government influence, they have robust transformational policies that address the issue of race and gender and they are comfortable with the progress that they have made so far.

Theme 5: Workplace learning facilitates career progression

Respondents were asked to share their views on workplace learning and career progression in their respective organisations.

Respondent one mentioned that in this knowledge-economy, employees can only progress when they continue to learn. This respondent indicated that organisations are always on the lookout for employees who are knowledgeable. This respondent had to this to say:

"The minute an individual stops learning and developing themselves, they cease to add any value to any organisation and will surely be overlooked for promotion opportunities"

Respondent two mentioned that learning in general is good, it helps employees grow which benefits the company. Respondent three indicated that their company has a learning culture and they pride themselves in this, therefore they also reward employees who embrace learning by affording them opportunities to grow. Respondent four mentioned that they strive for a learning culture and learning is part of their everyday philosophy. The respondent mentioned that they use World-Class Manufacturing as a production system and it encourages learning in order to drive productivity. According to this respondent:

"We have taken staff on a learning journey and this is an interesting time for us because it presents a lot of growth opportunities for everyone in the factory"

Respondent five indicated that one cannot separate workplace learning and career progression because people progress when they continue to learn. Therefore, employees cannot progress if they do not continuously learn. Respondent six mentioned that it has become increasingly difficult for employees to progress in their careers when they do not have robust personal development plans and, in the most part, these plans are dominated by learning and development interventions. Respondent seven indicated that workplace learning and career progression are interchangeable because employees cannot progress in their careers if they do not continuously learn. Respondent eight indicated that continuous learning gives all employees a competitive edge to be considered for higher positions within the organisation. Respondents nine and ten both reiterated that when it comes time to promote people, it is always the more skilled and experienced people who are considered for positions.

Theme 6: Investing in training and development drives employee retention.

Respondents were asked to share their views on workplace learning and employee retention in their respective organisations.

Respondent one indicated that if a company invests in its employees through training and development, those employees are more likely to stay longer with the company because of loyalty and commitment to the company. According to the respondent:

"People stay where they feel they are cared for"

Respondent two mentioned that it is easy to retain older people in the company but the younger employees do not exhibit company loyalty regardless of efforts to retain them. Respondent three mentioned that they specifically use learning and development as retention tools because they want to encourage their employees to continuously learn. Respondent four mentioned that learning and development are part of their retention strategy but they are also mindful that people choose to leave the company for various reasons.

Respondent five mentioned that employees are more likely to stay with a company that shows interest and invests in their development and growth. Respondent five indicated that people will be loyal when you invest in them. Respondent six mentioned that the popular view is that if you invest in your employees they are more likely to stay loyal to you. By the same token, even if companies invest in training and development, if they do not create opportunities for advancement, employees will start looking for greener pastures. Respondents seven and eight mentioned that there is really nothing one can do to retain staff because people are made happy by different things, therefore they will stay with a company for different reasons. However, as a starting point, companies should generally invest in their employees. Respondent nine mentioned that retention is affected by many factors and learning can also drive employee retention. Respondent ten mentioned that learning must be coupled with career progression opportunities. The respondent indicated that it is no use training people when there are no opportunities for growth, otherwise they will exit the company and go elsewhere. This respondent mentioned that:

"I think any form of learning becomes meaningless if it is not coupled with clear career progression guidelines, sadly people develop themselves to benefit somehow in the future otherwise they will jump ship"

Theme 7: How long graduate development programmes have been run at different companies

When asked how long they have been running graduate development programmes in their respective organisations, respondents narrated different periods with a similarity being that the programmes have been run over a period of ten years.

Respondents one and two mentioned that their programme has run for more than ten years for engineering trainees. Respondent one had this to say:

"Our programme has produced a lot of the engineers we now have in our plants, the graduate programme has really bore fruitful results for us and that is why it is so greatly supported by the business"

Over the years they have been more aggressive with appointing specifically black trainees in order to address their employment equity targets and drive transformation. Respondents three and four indicated that their programme has run for over ten years. This was a similar case for

respondents five and six who mentioned that their programme has been running for over ten years. Respondents seven and eight also mentioned that their programme has run for over ten years and that they keep improving on it as they go along through benchmarking with other companies. Respondents nine and ten also mentioned that their graduate development programmes have been run for more than ten years.

Theme 8: Recruitment, promotion and retention of black engineering graduates over 5 years

Respondents were asked to give an account of the number of black graduates who were recruited, promoted, and retained over a period of five years.

According to respondents one and two, all 30 graduates who were recruited over a period of 5 years completed their 2-year programme and secured employment as engineers. Of this number, 19 were male and 11 were female. Five male graduates were appointed as senior engineers and no female graduates were promoted. Twenty-two graduates comprising 15 males and 7 females are still within the company in different areas across all their business units. Respondent one mentioned that graduates are normally absorbed in vacant positions within the business, and if there are no vacancies when they complete their 24-month programme, they are retained in the pipeline structure until vacancies are available. This respondent also indicated that the company faces challenges with retaining black graduates because they like to job-hop as they know that they are in demand. According to this respondent:

"It is always a challenge to retain EE graduates because they are always looking for the next big thing in the market".

Respondents three and four mentioned that of the 40 black graduates that have been recruited over the last 5 years, 27 were males and 13 were females. Nine of the graduates have been promoted from the programme over the 5-year period and have taken up management positions after completing their 3-year Future Leadership Management Programme. Of the 9 who were promoted, 6 were male and 2 were female. Respondents three and four also mentioned that 26 graduates are still with the company and some have gone to join their competitors. Of the 26 who are still with the organisation, 17 comprise males and 9 females. Respondent three mentioned that when graduates exit their business, they do not always see it in a negative light as they believe that most of their competitors actively poach their employees because they have a good training background. According to this respondent:

"The is always a need for engineering skills so if we cannot absorb the graduate for whatever reason, we would much rather have them being appointed elsewhere, that also puts out training programmes on a positive light"

Respondents five and six mentioned that they do not actually have much movement in terms of promotions because their employees tend to stay until retirement age. This is especially the case in the engineering and technical field. As a result, only about 8 graduates have been promoted out of the 52 who were recruited over a 5-year period. Of the 52 who were recruited over this period, 34 were male and 18 were female. Out of the 8 who were promoted, 6 were male and 2 were female. Respondents also indicated that 38 graduates are still with the company in different areas within their nationwide sites. This number comprises 25 males and 13 females.

Respondents seven and eight mentioned that they recruit not less than 5 graduates each year depending on affordability and the business need. Over the last 5 years, they have recruited 35 graduates. The responded mentioned the following:

"Over the last couple of years, we have embarked on a huge recruitment drive for graduates because we understand that we have an aging workforce so we just need to balance our talent numbers"

Of this number, 22 were male and 13 were female. Respondent seven also mentioned that their workforce is relatively young so people seldom leave their roles, hence there have not been that many promotions in the past 5 years. This respondent also mentioned that they have at least seen some upward mobility for 7 black graduates. Of the 7 black graduates who were promoted, 4 were male and 3 were female. Respondent eight also mentioned that the company prioritizes filling vacancies internally and this puts their graduates in an advantaged position. Also as part of succession planning, the company prioritizes EE promotions. It was also mentioned by the respondents that 15 graduates are still within the company in different areas across all their business units; of this number, 9 are male and 6 are female.

Respondents nine and ten mentioned that because they are a government parastatal, they always prioritize employment equity appointments and promotions. They indicated that they have about 15 trainees who have been promoted from the programme out of 50 graduates who have been recruited over a period of 5 years. Of the 50 graduates who were recruited, 28 were male and 22 were female, and of the 15 who were promoted, 9 were male and 6 were female. Respondent nine also mentioned that unfortunately it does happen that when the programme ends after 18 months, they do not have vacancies and therefore they have to let go of some of their graduates. However, the respondent also mentioned that they still have a good number of about 25 graduates that they have managed to retain. This number comprises 13 male graduates and 11 female graduates.

Theme 9: Factors that promote and inhibit the effectiveness of graduate development programmes

When asked their views on factors that promote and inhibit effective graduate development programmes, respondents shared different views based on their respective experiences of their programmes. A summary of which is provided below:

Promoting Factors	Inhibiting Factors
- Structured programmes - Measuring the level of competency using competency assessments - Using knowledgeable and experienced people to mentor and coach trainees - Exposing trainees to large projects that build their engineering and business competencies - Learning by doing the work - A good remuneration structure - Commitment from the company to support graduates - Graduates who have a hunger to learn - Communication - Aggressive development planning	- Unstructured development programmes - Not giving trainees challenging projects - Not measuring the competency levels of trainees - Poor relationships between mentors and mentees - Bad attitude of graduates - Keeping graduates in one place/ department - Paying graduates poorly - Non-supportive mentors - Business pressures that result in mentors not having time for graduates - Graduates who do not take ownership of their own development - No competency assessments in place - Poor communication

4.2 Quantitative data analysis

4.2.1 Demographics

Figure 4.1: ***Gender distribution by percentage***

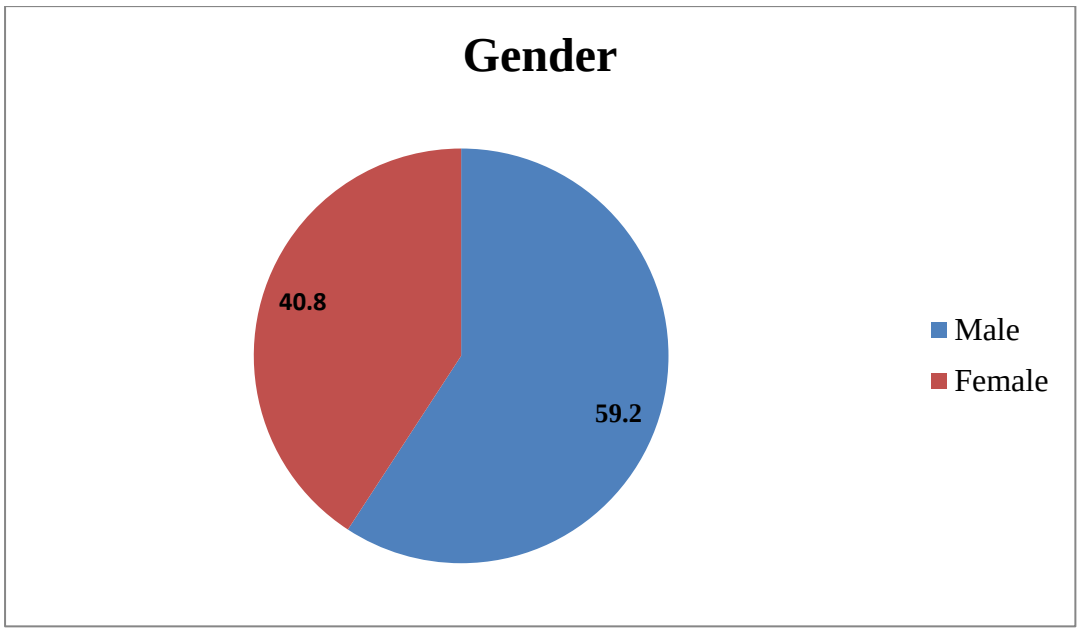


Figure 4.1 indicates that 59.2% of quantitative research participants were male while 40.8% were female. These numbers indicate that more black male graduates participated in the study compared to black female graduates.

Figure 4.2: ***Racial distribution by percentage***

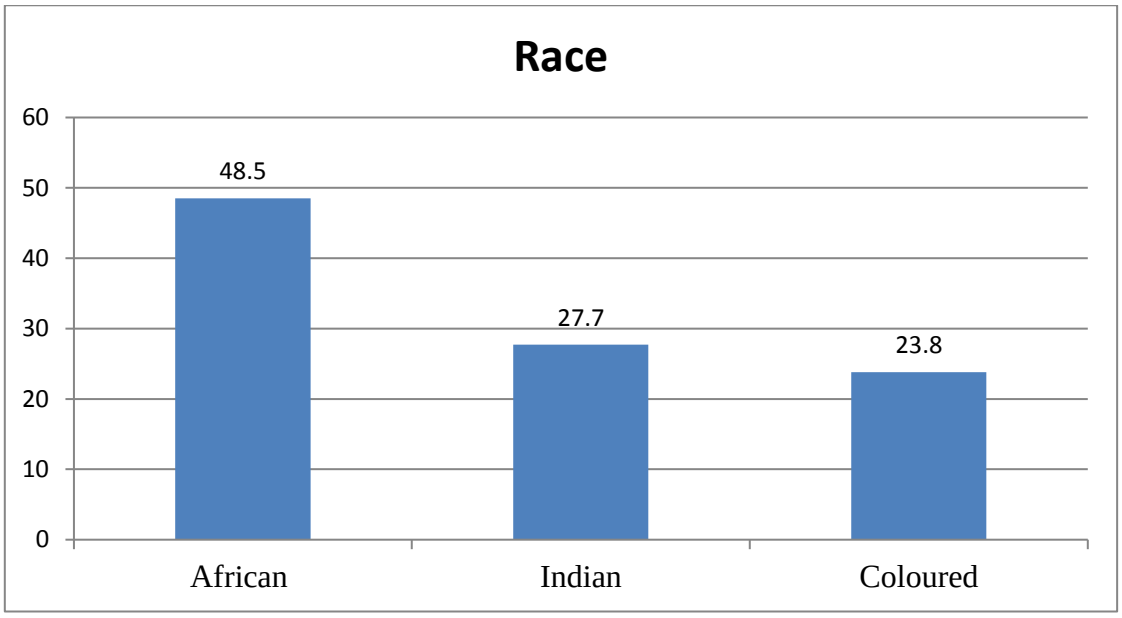


Figure 4.2 indicates that 48.5% of quantitative research participants were African, 27.7% were Indian and 23.8% were Coloured. These numbers indicate that Africans were the majority of the research participants, followed by Indians and Coloured who were the least.

Figure 4.3: ***Age group distribution by percentage***

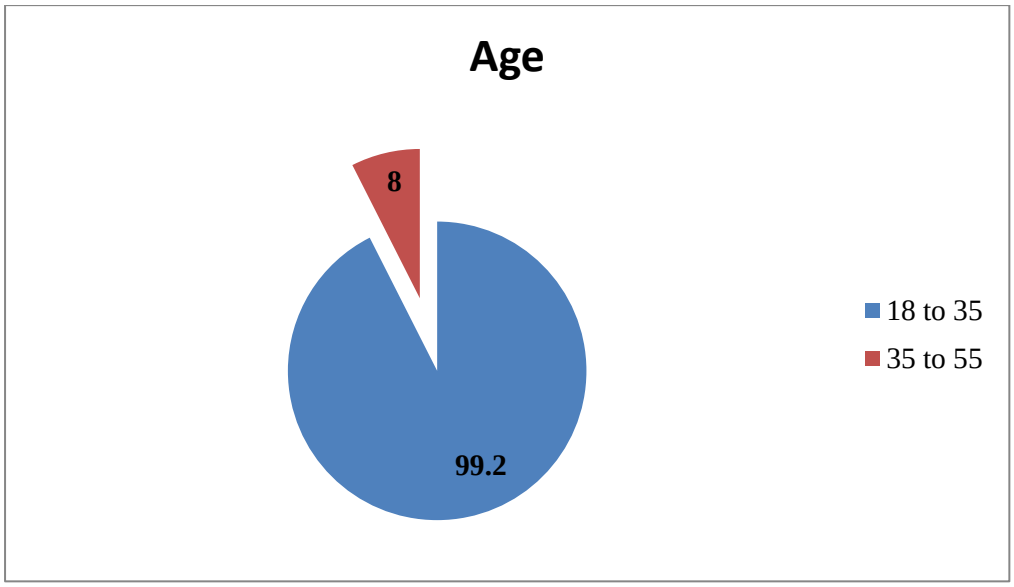


Figure 4.3 indicates that 99.2% of quantitative research participants were between the ages of 18 and 35, while, 8% comprised the age group between 35 and 55. These numbers indicate that the majority of the research participants were individuals between the ages of 18 and 35.

Figure 4.4: ***Distribution of industry type by percentage***

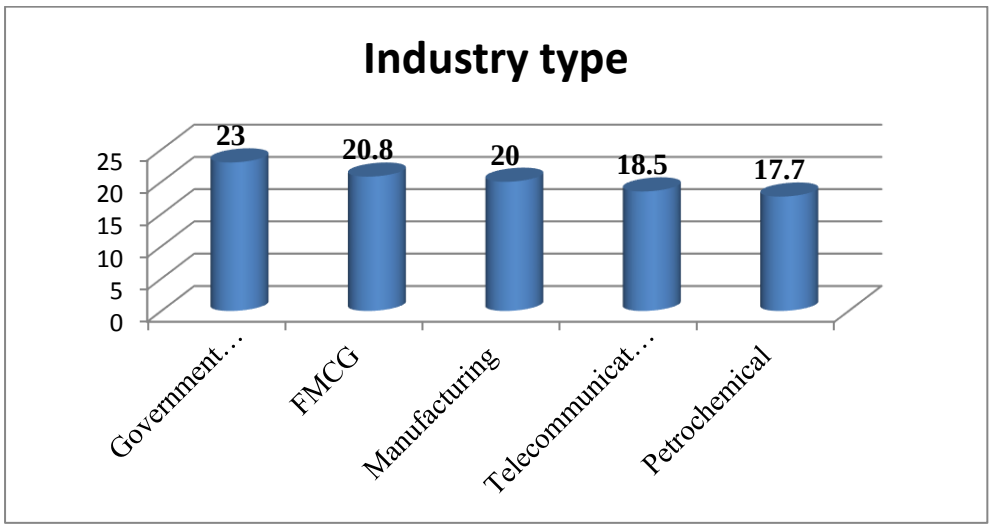


Figure 4.4 indicates that 23% of quantitative research participants were from the government parastatal; 20.8% were from the FMCG industry; 20% were from the manufacturing industry;

and 18.5% were from the telecommunications industry. These numbers indicate that the majority of the research participants were from the government parastatal while the least number of participants were from the petrochemical industry at 17.7%.

Figure 4.5: ***Length of service in years by percentage***

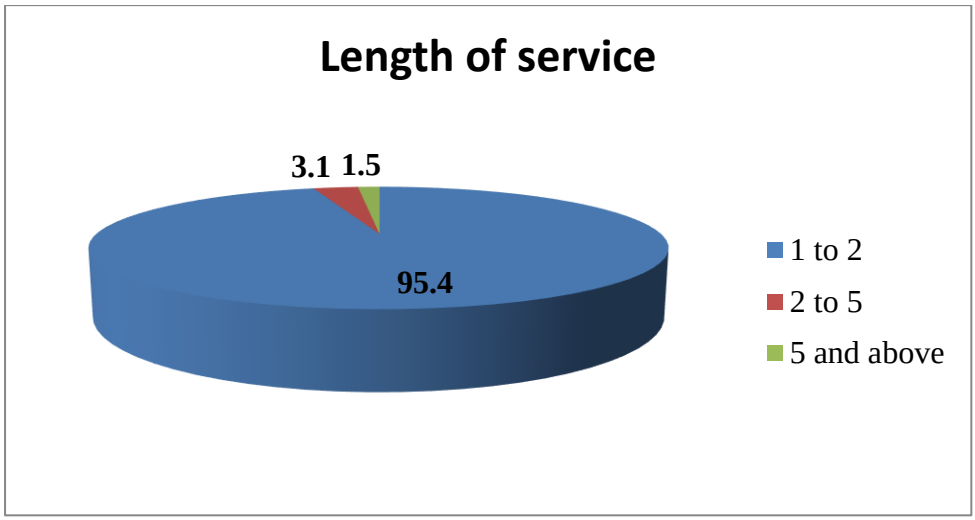


Figure 4.5 indicates that 95.4% of quantitative research participants have been with their respective organisations for 1 to 5 years while 3.1% have been with their organisations for 2 to 5 years, and only 1.5% have been with their organisations for more than 5 years. These numbers indicate that the majority of the research participants have not been with their organisations for more than 2 years.

4.2.2 Reliability Analysis

Reliability focuses on the internal consistency of a scale, i.e. determining the extent to which items measure a similar research construct. The Cronbach's Alpha coefficient is important in determining the internal consistency of measuring scales (Loewenthal, 2004). The reliability of scales for this study is ordinal-based on a 5-point Likert scale ranging from strongly disagrees to strongly agree. According to Loewenthal (2004), when a coefficient is 0.70 or more, it is said to be acceptably reliable, however an Alpha coefficient of 0.6 is also acceptable.

Table 4.2: ***Reliability of measuring scales***

Item	Cronbach's Alpha	Number of items
Graduate development programmes	0.705	3
Workplace learning	0.605	6
Coaching and mentoring	0.762	5
Career progression	0.689	3
Employee retention	0.975	3

Table 4.2 above indicates that three items were used to assess the reliability of the graduate development programme scale. The Cronbach's Alpha was 0.476 with 4 items included which indicated that the scale was not internally consistent. The items were reduced in order to improve the reliability score. The Cronbach's Alpha was 0.705 with three items included which is an indication of good internal consistency. Six items were used to assess the reliability of the workplace learning scale. The Cronbach's Alpha was 0.605 with all the items included which is an indication of good internal consistency. Five items were used to assess the reliability of the coaching and mentoring relationship scale. The Cronbach's Alpha was 0.762 with all the items included which is an indication of good internal consistency. Three items were used to assess the reliability of the career progression scale. The Cronbach's Alpha was 0.689 which is an indication of good internal consistency. Three items were used to assess the reliability of the employee retention scale. The Cronbach's Alpha was 0.975 with all the items included which is an indication of good internal consistency.

4.2.3 Test for Normality

Table 4.3: ***Distribution of data***

	Kolmogorov-Smirnov[a]		
	Statistic	df	P-value.
Graduate_Development	.240	130	.000
Workplace_Learning	.151	130	.000
Coaching_Mentoring	.472	130	.000
Career_Progression	.454	130	.000
Employee_Retention	.480	130	.000

a. Lilliefors Significance Correction

Table 4.3 above indicates that the Kolmogorov-Smirnova test was used to test for statistical significance because the researcher used more than 50 research participants for the sample size. A Kolmogorov-Smirnova test is used when a sample is 50 or above (Drezner, Turel & Zerom, 2010). Moreover, the findings also indicate that the P-value for all measured items is 0.001 which essentially means that the data is not normally distributed, according to Drezner *et al*., (2010), if the P-value is less than 0.05 then it can be concluded that there is no normal distribution. Drezner *et al*., (2010) also argue that it becomes difficult to ensure the normality of data for big sample groups and therefore testing for normality is not as important for large sample groups as it is for smaller samples.

It can therefore be drawn from the table above that the data in this study is not normal and can thus be referred to as non-parametric. According to Sheskin (2003) parametric tests are used for normal data, while non-parametric tests are used for data that is not normal. If the information about the population parameter is known, there are assumptions made about the population and null hypothesis is made on the distribution of the population parameter; then the statistical test is known as the parametric test (Sheskin, 2003). These tests include the t-test, f-test, z-test and Anova for example (Sheskin, 2003). On the other hand, if there is no knowledge of the population parameter, no assumptions are made about the population and the null hypothesis is free from parameters; then the statistical test is known as the non-parametric test. For example non-parametric tests include the mann-Whitney, rank sum test and Kruskal-Wallis test (Sheskin, 2003).

4.2.4 Correlations

Due to the fact that the data in this study was found to be not normal, the Spearman's correlation coefficient was used. The Spearman's correlation is a statistical measure of the strength of a monotonic relationship between paired data (Hauke & Kosowski, 2011). This means that if the measure is monotonically increasing; as the x variable increases the y variable never decreases. It also means that if the measure is monotonically decreasing; as the x variable increases the y variable never increases. If the measure is not monotonic it means that as the x variable increases the y variable sometimes decreases and sometimes increases. The closer the Spearman's correlation is to +1 the stronger the monotonic relationship (Hauke & Kosowski, 2011).A correlation is said to be weak if the Spearman's Correlation is less than 0.3; it is said to be medium-strong if the Spearman's correlation is between 0.3 and 0.5 and is said to be strong if the Spearman's correlation is more than 0.5 (Hauke & Kosowski, 2011). Moreover, a

correlation is said to be statistically significant if it is less than 0.05 (Benesty, Che & Huang, 2009).

Table 4.4: ***Relationship between workplace learning and graduate development Programmes***

		Workplace learning
Graduate development programmes	Spearman's rho correlation	.567**
	P Value (2-tailed)	.000
	N	130

The table 4.4 above shows the relationship between workplace learning and graduate development programmes was investigated using the Spearman's correlation. There was a strong and positive correlation between graduate development programmes and workplace learning, rho= 0.567, n=130, p<0.000, with high levels of graduate development programmes associated with high levels of workplace learning.

Table 4.5: ***Relationship between workplace learning coaching and mentoring***

		Workplace learning
Coaching and Mentoring	Spearman's rho correlation	.405**
	P Value (2-tailed)	.000
	N	130

The table 4.5 above shows the relationship between workplace learning and coaching and mentoring was investigated using the Spearman's correlation. There was a moderate but positive correlation between workplace learning and coaching and mentoring, rho= 0.405, n=130, p<0.000, with high levels of workplace learning associated with high levels of coaching and mentoring.

Table 4.6: ***Relationship between workplace learning and career progression***

		Workplace learning
Career Progression	Spearman's rho correlation	.198**
	P Value (2-tailed)	.000
	N	130

The table 4.6 above shows the relationship between workplace learning and career progression was investigated using the Spearman's correlation. There was a weak but positive correlation between workplace learning and career progression, rho= 0.198, n=130, p<0.000, with weak levels of workplace learning associated with weak levels of coaching and mentoring.

Table 4.7: ***Relationship between workplace learning and employee retention***

		Workplace learning
Employee Retention	Spearman's rho correlation	.151**
	P Value (2-tailed)	.000
	N	130

The table 4.7 above shows the relationship between workplace learning and employee retention was investigated using the Spearman's correlation. There was a weak but positive correlation between workplace learning and employee retention, rho= 0.151, n=130, p<0.000, with weak levels of workplace learning associated with weak levels of coaching and mentoring. .

4.2.5 Regression Analysis

Regression analysis is a quantitative research method that is used when a research study involves modelling and analysing several variables, where the relationship includes a dependent variable and one or more independent variables (Pallant, 2006). This tool is about ascertaining the causal effect of one variable upon another (Pallant, 2006). An independent variable is a variable that stands alone and is not changed by the other variables that the researcher is trying to measure, while a dependent variable is one that depends on other factors (Montgomery, Peck, & Vining, 2015).). Regression also assists in assessing the statistical

significance of the relationships. Significance is the degree of confidence that a true relationship is close to the estimated relationship (Montgomery *et al*., 2015).

Table 4.8: ***Regression on workplace learning and graduate development programmes***

Dependent variable: Graduate development programmes

	B	**SEB**	**β**	**t**	**Sig**	**R^2**
Workplace learning	.526	.040	.567	13.156	.000	.575

Simple regression was performed to assess the relationship between workplace learning and graduate development programmes. Table 4.8 shows that there is a statistically significant relationship between workplace learning and graduate development programmes. The coefficient (β=0.567) indicates that a strong and positive relationship exists. Graduate development programmes represented by coefficient of determination (R^2=0.575), explain 57.5% of the variance in workplace learning.

Table 4.9: ***Regression on workplace learning and coaching and mentoring***

Dependent variable: coaching and mentoring

	B	**SEB**	**β**	**t**	**Sig**	**R^2**
Workplace learning	.472	.066	.405	7.171	.000	.287

Simple regression was performed to assess the relationship between coaching and mentoring and workplace learning. Table 4.9 shows that there is a statistically significant relationship between coaching and mentoring relationships and workplace learning. The coefficient (β=0.405) indicates that a moderate but positive relationship exists. Coaching and mentoring represented by coefficient of determination (R^2=0.287), explains 28.7% of the variance in workplace learning.

Table 4.10: ***Regression on workplace learning and career progression***
Dependent variable: career progression

	B	**SEB**	**β**	**t**	**Sig**	**R^2**
Workplace learning	.442	.084	.198	5.236	.000	.176

Simple regression was performed to assess the relationship between career progression and workplace learning. Table 4.10 shows that there is a statistically significant relationship between career progression and workplace learning. The coefficient (β=0.198) indicates that a weak but positive relationship exists. Career progression represented by coefficient of determination (R^2=0.176), explains 17.6% of the variance in workplace learning.

Table 4.11: ***Regression on workplace learning and employee retention***
Dependent variable: employee retention

	B	**SEB**	**β**	**t**	**Sig**	**R^2**
Workplace learning	.580	.0169	.151	3.424	.001	.084

Simple regression was performed to assess the relationship between employee retention and workplace learning. Table 4.11 shows that there is a statistically significant relationship between career progression and workplace learning. The coefficient (β=0.151) indicates that a weak but positive relationship exists. Employee retention represented by coefficient of determination (R^2=0.084), explains 8.4% of the variance in workplace learning.

It is evident from the tables above that graduate development programmes is the best predictor of workplace learning with a low P-value of $p<0.000$ and a higher R-squared value of 0.575. This is because a combination of a low P-value and a higher R-squared value indicates that the variable is the best predictor (Montgomery *et al*., 2015)

4.3 Summary of chapter

Chapter Four provided an analysis of qualitative and quantitative findings. The qualitative data analysis was done thematically by deriving themes that kept recurring in the data. Nine themes

were derived from the qualitative analysis based on information provided by research participants. The quantitative data analysis was presented statistically. The data provided a demographic analysis of research participants. The reliability of scales used to measure research constructs was discussed together with a discussion of the distribution of data, as well as correlations between two variables and among multiple constructs. The chapter also provided a discussion on regression analysis. The following chapter will present a discussion of the research findings.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5. Introduction

The broad objective of the study as earlier stated was to investigate the extent to which graduate development programmes are effective in the development of Black engineering professionals. The findings of the study will add to the already existing body of knowledge on human resource development as well as provide organisations in the formulation of strategies that can better enhance their graduate development programmes in order to achieve maximum benefits. In addition, the study will bridge the gap in the discourse of scarce engineering skills in South Africa in that it not only focuses on the skills acquired at university level; but on how these skills can be supplemented by industry-specific skills that are provided by organisations. This chapter presents a discussion on research findings for both aspects of qualitative and quantitative research. The findings from the two data sets will be discussed in the context of current literature and the objectives of the study. Essentially, the nine themes derived from the qualitative study will be discussed and conceptualised to the objectives of the study. The statistical findings will also be discussed in order to demonstrate that supporting literature exists to justify the prevailing findings. The chapter will discuss whether or not, through empirical findings, the study has met its research objectives as well as provide a discussion on the hypothesis. The last part of the chapter will provide a discussion on the triangulation in order to compare the qualitative and quantitative findings.

5.1. Qualitative Data Discussion

The nine themes that were derived from the research findings are listed below:

- Theme 1: Companies utilise career exhibitions, university visits and career websites to recruit engineering graduates
- Theme 2: Graduate development programmes are effective because they facilitate talent management and succession planning
- Theme 3: Coaching and mentoring assist in the knowledge transfer process
- Theme 4: Race and gender affect coaching and mentoring relationships
- Theme 5: Workplace learning facilitates career progression
- Theme 6: Investing in training and development drives employee retention

- Theme 7: How long graduate development programmes have been run at different companies
- Theme 8: Recruitment, promotion and retention of black engineering graduates over 5 years
- Theme 9: Factors that promote and inhibit the effectiveness of graduate development programmes.

5.1.2 Theme discussion

Theme 1: Companies utilise career exhibitions, university visits and career websites to recruit engineering graduates

The strategies used by different organisations to recruit graduates for their development programmes is supported by literature in that the South African Graduate Employer Association (SAGEA), indicates that high-potential graduates are recruited through the use of university visits, career fairs and other innovative ways of attracting the brightest university graduates (SAGEA, 2016). This could essentially also include company websites and social media platforms. Moreover, Charan (2009) argues that recruiting graduates is far more cost effective than recruiting already experienced employees. This is because graduates provide a rich pipeline of talent that can be utilised to fill vacancies as they arise (Charan, 2009).

Furthermore, Burk and Mattis (2005) indicate that because organisations have lower numbers of female engineers, they should put in place recruitment strategies that deliberately target female engineers. One strategy could be building relationships with both high school learners with an interest in engineering and their teachers, and also building similar relations with university students and their respective institutions (Burk & Mattis, 2005). Another strategy could be on re-branding the engineering profession and making it more attractive for women (Burk & Mattis, 2005). This is a point already mentioned by all respondents, with their forged relationships with universities and involvement in career fairs.

Theme 2: Graduate development programmes are effective because they facilitate talent management and succession planning

The views of respondents on the effectiveness of graduate development programmes in facilitating talent management and succession planning are supported by literature. Respondents mentioned that the length of their programmes, ranging from 18 to 36 months, is what makes them effective. According to McCall (1998), the duration of graduate development programmes range between one year and three years, although the duration is dependent on an

organisation's strategies. Again all respondents agreed that their programmes are effective in that they assist graduates to acquire the skills and competencies required for the industry. There exists rich literature on the transition of graduates to the world of work and the importance of learning during this period (Kraak, 2005; Korte, Sheppard & Jordan, 2008; Hodkinson, Hodkinson, & Sparks, 2013). Literature effectively supports the view that graduate development programmes assist graduates in this transitional process through learning interventions.

Moreover, graduate development programmes can be seen to be effective in the various organisations because they assist graduates to close development gaps. This is because it is argued that a gap exists between graduates skills and the competencies required by organisations (Galloway, 2007; Mills, 2002; Male, 2010). It follows then that educational institutions are successful in providing technical education to engineers, although there appears to be a gap in generic skills that involves communication, leadership and social skills (Male, 2010). Graduate development programmes therefore assist to equip graduates with these generic skills that are required in the world of work. Respondents also indicated that their programmes are effective as they use them as succession planning tools for accelerated development of young talent. This is supported by Viney *et al.*, (1997) in that graduate programmes have always been used to accelerate the development of graduates in order to prepare them for senior roles. This has been done by exposing them to challenging work assignments and affording them opportunities for inter-departmental rotations (Viney *et al*., 1997)

Theme 3: Coaching and mentoring assists in the knowledge transfer process

The views of respondents on coaching and mentoring are supported by existing literature, in that seniority and experience was shared by all respondents as a defining feature of a mentor. Existing literature relating to what constitutes a mentor indicates that a mentor is normally a senior and experienced individual who takes a junior and less experienced graduate under their wing and supports them to achieve developmental goals (Scandura, 2001). Literature also suggests that mentors hold senior positions, they are be able to introduce the protégé to decision-makers within the organisation (Kram & Chermiss, 2001). Furthermore, Noe's (1988) observational learning theory suggests that individuals usually learn a lot from others who are more skilled and more experienced. In addition, respondents all agree that mentoring can assist

graduates with their development within their respective organisations. Darwin (2000) supports this view by arguing that mentoring relationships have always been put in place to provide a helping hand to protégés who need to improve their skills.

Respondents also alluded to the importance of mentoring for on-boarding and socialisation purposes. This view is similarly shared in literature. Grant (2010) argues that while being new in the job, it also becomes important for newcomers to strengthen their social network ties through a socialisation process. Socialisation is about acquiring knowledge, about performance expectations, and the business value chain (Scandura, 2002). It has also become apparent in the views of respondents that a distinction between mentor and coach was made. For example, respondents one and two indicated that graduates are allocated both a coach and mentor. This view is not at all foreign to existing literature. For example, Brokeback and MacGill (2012) argue that mentoring relationships are normally long in nature. A mentor is normally an expert in the field of work of the protégé (Eby *et al.*, 2012). However, a coach does not have to be a subject-matter expert because they do not prescribe to the coachee on how to solve problems as this is a collaborative effort.

Theme 4: Race and gender affect coaching and mentoring relationships

Although voicing different views on how race and gender affect coaching and mentoring relationships, the consensus among all concerned is that race and gender are important dynamics in South African workplaces. Literature also suggests that gender has a big influence on the coaching and mentoring relationship (Wanberg, Welsh, & Hezlett, 2003). In addition, literature also suggests that race and gender dynamics are an important feature of South African workplaces. For example, Webster & Von Holdt (2005) indicate that race continues to be a point of contention within South Africa workplaces. The authors indicate that a racial division of labour might still be prevalent due to the legacy of apartheid in most South African organisations, even in our post-democracy era. This, they argue, may be contributing to the re-creation of a workplace regime founded on the premise of discrimination and segregation. Although respondents mentioned that graduates are allocated mentors based on their respective engineering disciplines, and not based on race or gender, it is evident from literature that race and gender are defining features of South African organisations, hence the two elements are important areas to address.

It was also mentioned one of the respondents that gender remains an issue in their organisation because they remain a male-dominated company, however all cases of racial and gender discrimination are handled on their merit. This is supported by literature which suggests that females still do not have the same access to developmental programmes (O'Brien *et al*., 2008). Although respondents indicated that there are ways in which they address race and gender dynamics, it may seem that all organisations face unique challenges with these dynamics. This is a view similarly presented in literature. For example, white males view mentoring non-white protégés as risky when compared to mentoring white protégés (Tenenbaum *et al*., 2001). However, it is suggested that it would be more beneficial for women and black people to be exposed to mentoring and coaching relationships (Tenenbaum *et al*., 2001).

Theme 5: Workplace learning facilitates career progression

All respondents shared a similar view on workplace learning and that it is fundamental for employees to engage themselves in continuous learning. For example, Ellström (2001) argues that organisations should continuously invest in learning and development in order to gain a competitive advantage. Respondents also mentioned that career progression in their respective organisations can only take place when employees engage themselves in continuous learning. Respondent three indicated that their employees are rewarded for learning. This view is shared by Tynjälä (2008:12) who indicates that "while the organisation of work sets the context and conditions for learning, it is still the reciprocal interaction between the individual and the workplace that determines learning". In addition, literature also supports the views of respondents alluding to the importance of driving continuous learning in that they are always looking for creative ways to drive workplace learning, and assess the competency of their employees from competency frameworks (Graven & McGuire, 2001).

One of the respondents indicated that their organisation has a learning culture and that learning is part of their everyday philosophy. The view of having a culture of learning in order to drive workplace learning is one that has been explored in existing literature. According to Rylatt (1994), it is important for organisations to drive a culture of learning which is supported by an organisation's policies and procedures. Respondent seven indicated that in their organisation, it is difficult for employees to progress in their careers when they do not have robust personal development plans, and for the most part these plans are dominated by learning and development interventions. The view of developing the person as a whole through personal development plans is shared in existing literature. For example, Rylatt (1994) argues that

workplace learning must seek to develop the whole person, focusing on the technical and interpersonal development of that specific person.

Theme 6: Investing in training and development drives employee retention

Respondents from all industries agreed that when organisations invest in their employees and provide them with opportunities for learning and development, these employees are more likely to stay loyal and committed to their organisations. This view is shared in literature which indicates that workplace learning improves commitment and performance at work (Matthews, 1999). Also, McKinsey (2001) argues that organisations are now aware that investment in their human capital is important for meeting business goals. It is also argued that learning and development improve employee satisfaction (Harris, Winkowski, & Engdahl, 2007). Graduate programmes are also put in place to drive employee loyalty (Garavan & Morley, 1997). On the other hand an alternative view is shared in literature which argues that companies are reluctant to incur training and development costs because of fear of turn over (Booysen, 2007). The fears arise from the view that companies spend substantial amounts of money and resources towards the training and development of staff but in the end still fail to retain these employees. This is due to the apparent competition for skills among organisations (Booysen, 2007).

In South Africa, employment equity and its focus of the training and development of persons in the designated groups is argued to have put companies under pressure of putting in place innovative retention strategies particularly for these individuals (Booysen, 2007). The concept of job hopping has also been identified to be a barrier to organisations realising the return on investment for their training and development programmes (Booysen, 2007). This is because there is an argument that employment equity candidates are more likely to jump from one company to the next due the prevailing demand for their skills (Nzukuma & Bussin, 2011). Essentially, it is argued that employees utilise training and development programmes to get ahead in their careers and thereafter look for better opportunities outside their organisations so as to earn higher salaries (Nzukuma & Bussin, 2011). This view is supported by other scholars e.g. (Bennet, 2001; Bhorat, 2001; Thomas, 2002) who argue that the phenomena of job hopping is mostly evident among black managers due to the high demand and favourable job opportunities for Blacks. However, Cruz (2006) maintains that money on its own does not attract black employees, black employees are drawn to organisations that they perceive to have

an inclusive organisational culture and is not limited to relatively simple hiring quotas or superficial training in order to meet EE targets.

Respondent eight mentioned that it seems to be easier to retain older employees as opposed to retaining younger employees. Particular reference was made to the fact that although learning and development are used as retention tools, employees still leave organisations for different reasons. Literature has explored the generational aspects of retention. Jusoh *et al*. (2011) indicate that graduates normally expect to have high-quality training from the organisations that hire them because the quality of the learning and development they experience affects their commitment levels. Alsop (2008) also argues that although graduates may frequently change jobs, they are generally loyal, although this loyalty is not to the organisation as a whole but to an individual they hold in high regard.

Respondent nine mentioned that although learning and development are crucial in driving employee loyalty and commitment, this drive may be met with a lot of resistance if there are no opportunities for growth presented to graduates. This view is shared in literature which indicates that there is an expected return on investment for organisations to drive learning and development interventions, similarly there is also an expectation from employees to be better positioned for career progression opportunities as a result of undergoing workplace learning programmes (Garrick, 1998; Boud & Garrick, 1999; Bratton *et al.,* 2003). Rodriguez (2008) argues that employees often leave organisations when they feel like they are stagnating. Graduates also join graduate development programmes because they want to progress to higher positions quickly, so if that does not happen, they tend to leave (Kandola, Wood, Dholakia, & Keane, 2006).

Theme 7: How long graduate development programmes have been running at different companies

A similarity for all respondents is that their graduate development programmes have been run over a period of ten years. Respondents one and two indicated that their recruitment drives have been aggressive in targeting black trainees. This is indicative of the commitment of South African organisations to meet national imperatives and assist the government in addressing the issue of skills development for the youth. For example, the South African government introduced JIPSA and SDA to promote the learning and development of designated groups

(Republic of South Africa, 1998; South African Government Online, 2008). Through running graduate development programmes, organisations also contribute to improving the employability of graduates.

Moreover, literature suggests that employing graduates is an option taken by many organisations in South Africa in order to drive their own internal human resource development strategies to meet national imperatives and manage the cost of employee development (Kraak, 2005). According to McDermott, Mangan & O'Connor (2006), many organisations use graduate development programmes as a cost-effective strategy to develop their own talent. Furthermore, graduate development programmes have been increasing at a rapid rate in recent years (Viney, Adamson, & Doherty, 1997). This is evident when considering the time frames at which the different organisations have run their respective programmes. Moreover, the South African Graduate Employer Association (SAGEA) has grown to a membership of 180 organisations in 2017, from 24 members when it was formed in 2004 (SAGEA, 2016).

Theme 8: Recruitment, promotion and retention of black engineering graduates over 5 years

When considering the total number of graduates who have been recruited in the various organisations, it is evident that there has been a drive in appointing black graduates of both genders; this is a similarity shared across all the organisations although male numbers are consistently higher than female numbers. This situation of gender inequality in recruitment is addressed in existing literature which indicates that there exists discrimination within organisations when it comes to salaries, hiring practices, and promotion opportunities (Alimo-Metcalfe, 1995). Catalyst (2002) also reported that women are treated unfavourably when it comes to salaries, career advancement opportunities and hiring. Moreover, local and international research indicates that organisations should not only rely on legislation to address discrimination, there should be a drive for culture transformation (Thomas, 2002; Horwitz *et al.,* 2005; Hukai & McCarty, 2005; Selby & Sutherland 2006).

In addition, when looking at the findings, it is evident that promotion numbers do not seem to be high when compared to intake numbers and this is attributed to various reasons for the different organisations. The differences in race and gender relations is captured by Webster & Vonholdt (2005) who argue that there is fluidity and complexity in the transition of companies in South Africa . This is because although operating in the same political context, companies still have different racial and gender dimensions (Webster & Vonholdt, 2005). What is also

notable is that promotion numbers for males are also higher than is the case with females. The problem of progression of black employees has been captured in existing literature which indicates that although the South African government has put in place legislation to re-dress discrimination, not much is said about space creation which could facilitate the progression of black people into management positions by incentivising white managers to retire early (Implats 2004; Mittal Steel South Africa Limited 2005). The issue of space creation was also shared by respondent six who indicated that their organisation has low turnover due to the fact that their employees stay within the company until retirement age, and this therefore poses an obstacle to promoting black graduates.

Moreover, when looking at the promotion numbers of women, it is worth mentioning that various literature has explored the plight of women globally concerning their career advancement and progression. For example, literature indicates that women are granted fewer opportunities for promotion although they may hold the same qualifications and have similar experience to men (Davidson & Cooper, 1992; Milwid, 1990). Therefore, the advancement of women into management positions is lower in relation to men due to barriers that women experience (ILO, 2003). In terms of retention numbers, there appears to be a visible trend in that various organisations seem to have been more successful in retaining male graduates than female graduates. The retention of black and female employees has been an issue of concern for many scholars and is documented in literature focusing on re-dress legislation. For example, the slow progress of EE is attributed to the low representation of women and black people in senior management positions (Horwitz *et al.,* 2005).

When considering the retention trend apparent in this research, it can be argued that females are more inclined to exit organisations frequently or faster in comparison to males because of the absence of extrinsic motivators as coined by Deci & Ryan (1985) in their Cognitive Evaluation Theory (CET). These may, for example, include good salaries, promotions and good working conditions that allow them to advance and progress (Deci & Ryan, 1985). Maslow's hierarchy of needs may also be applicable as it talks about the need for advancement and growth as a motivator (Maslow, 1943). In the absence of these growth and advancement opportunities, it may be argued that female graduates will not have motivation to stay with their organisation, hence the trend with all organisations.

Theme 9: Factors that promote and inhibit the effectiveness of graduate development programmes

Factors that promote and inhibit workplace learning as shared by all respondents are consistent with those shared in literature. For example, Billet (2000) indicates that factors that promote workplace learning include being afforded the opportunity to carry out challenging work; access to coaches and mentors, exposure to structured learning, and being given continuous feedback on performance. In addition, Allen *et al.* (2004) also gives an account of the factors which may drive workplace learning which include organisational support; organisational philosophy; and consistent and continuous feedback regarding development gaps.

Billet (2000) further describes factors that may inhibit the effectiveness of workplaces as learning environments. These may include graduates being given irrelevant knowledge; no access to authentic activities like challenging and meaningful work assignments; reluctance of experts to participate in the knowledge sharing process; absence of expertise which may result in learners not having access to skilled coaches and mentors; opaque knowledge which is not accompanied by guidance of experienced and skilled people; and instructional media such as over-reliance on computer-based and text-based learning systems which may inhibit effective knowledge transfer (Billet, 2000). These factors are similarly shared by Allen *et al.* (2004) who indicates that business pressure may inhibit senior employees from engaging in the knowledge sharing process. Also, if these employees feel threatened by those they are assisting, they may be reluctant to share their knowledge (Allen *et al.,* 2004).

5.2 Quantitative findings discussion

The quantitative findings present a discussion on the demographics of the research participants. The objectives of the research study are also highlighted with justification that all the objectives have been met using supporting literature. The hypothesis that was formulated for the study is also discussed and is contextualised by the findings and supported by current literature.

The findings provided information on the research objectives of the study as well the formulated hypothesis. The first quantitative objective of the study was to determine the relationship between graduate development programmes and workplace learning. According to the findings presented, the first quantitative objective was met in that there is a positive relationship between graduate development programmes and workplace learning. This

correlation is shared in literature which indicates that when individuals engage in work, they apply innovative ways of thinking which are linked to a learning process (Billet, 2002). The first qualitative objective was to identify how graduate development programmes promote workplace learning and this objective was met. This is because the results of the study have indicated that graduate development programmes facilitate graduates' assimilation into the world of work. Literature further suggests that while partaking in graduate development programmes, new graduates who enter the labour market are integrated into companies and are able to acquire the necessary business competencies (Scott & Yates, 2002; Nair, Patil, & Mertova, 2009). This effectively means that by participating in graduate development programmes, graduates engage in a process of workplace learning.

The second quantitative objective of the study was to evaluate the relationship between workplace learning and coaching and mentoring relationships. The findings indicate that there is a positive relationship between workplace learning and coaching and mentoring. According to Scandura (2002), coaching and mentoring facilitate knowledge transfer through relational networks and the socialisation process. The second qualitative objective was to ascertain the role of coaching and mentoring on workplace learning. The results of the study indicate that coaching and mentoring assist with knowledge transfer so that graduates are equipped with industry-relevant skills. Literature argues that a coach/mentor provides guidance on career development through a series of learning interventions (Bodwin & Evans, 2012). It can therefore be said that literature supports the premise that coaching and mentoring have a direct relationship to workplace learning.

The third quantitative objective of the study was to determine the relationship between workplace learning and career progression. The findings indicate that there is a positive relationship between workplace learning and career progression. This relationship is supported by literature which suggests that workplace learning strategies are put forth to develop employee competencies through the use of competency frameworks which facilitate career advancement (Gravan & McGuire, 2001). The third qualitative objective of the study was to investigate how career progression is facilitated by workplace learning. This objective was met because based on the results of the study, workplace learning is mainly driven by organisations in order to develop talent and succession. It should however also be mentioned that other factors such as discrimination, and being afforded opportunities for career advancement, may limit

career progression even when there are learning and development interventions (Booysen & Ngambi, 2004; Horwitz *et al*., 2005; Booysen & Nkomo 2006).

The fourth quantitative objective was to assess the relationship between workplace learning and employee retention. According to the findings, there is a positive relationship between workplace learning and employee retention. This relationship is supported by literature in that graduates are seen to attach a lot of value to the learning and development they receive from an organisation and if these do not match their expected standards they often leave their jobs (Jusoh *et al*., 2011). The fourth qualitative objective was to explore how workplace learning drives employee retention. This objective was met because the results indicate that investing in employee's training and development drives their organisational commitment. Literature also suggests that affording employees the opportunities to continually engage in learning and development greatly improves their retention (Arnold, 2005; Herman, 2005).

5.3 Hypothesis discussion

5.3.1 Hypothesis 1 discussion

There is a positive relationship between graduate development programmes and workplace learning

Graduate development programmes and workplace learning were positively correlated. The performance scale was a 5-point Likert scale Spearman's rho, r (130) = 0.567, $p < .000$, as well as a simple regression, **β** 0.526. The coefficient correlation had a small effect, $p < 0.05$ hence the alternative hypothesis is adopted. The findings are consistent with the literature review. According to Tynjälä (2008), graduate development programmes play a pivotal role as far as workplace learning is concerned because of their ability to allow organisations to develop their own talent and drive learning organisations. The outcome results are significant, therefore the null hypothesis can be rejected and the alternative hypothesis adopted, which is:

There is a positive correlation between workplace learning and graduate development programmes.

5.3.2 Hypothesis 2 discussion

There is a positive relationship between workplace learning and coaching and mentoring

Workplace learning and coaching and mentoring were positively correlated. The performance scale was a 5-point Likert scale Spearman's rho, r (130) = 0.405, $p < .000$, as well as a simple regression, **β** 0.472. The coefficient correlation had a small effect, p <0.05 hence the alternative hypothesis is adopted. The findings are consistent with the literature review which asserts that observational learning in the form of mentoring and coaching is the critical aspect of graduate development programmes as it drives the learning and development of graduates in the workplace (Bandura, 1971). The outcome results are significant therefore the null hypothesis can be rejected and the alternative hypothesis adopted, which is:

There is a positive correlation between workplace learning coaching and mentoring

5.3.3 Hypothesis 3 discussion

There is a positive relationship between workplace learning and career progression

Workplace learning and career progression were positively correlated. The performance scale was a 5-point Likert scale Spearman's rho, r (130) = 0.198, $p < .000$, as well as a simple regression, **β** 0.442. The coefficient correlation had a small effect, p <0.05 hence the alternative hypothesis is adopted. The findings are consistent with the literature review, for example, Kandola, Wood, Dholakia & Keane (2006), argue that graduates elect to participate in development programmes because they hope to progress quickly in their careers. The outcome results are significant therefore the null hypothesis can be rejected and the alternative hypothesis adopted, which is:

There is a positive correlation between workplace learning and career progression.

5.3.4 Hypothesis 4 discussion

There is a positive relationship between workplace learning and employee retention

Workplace learning and employee retention were positively correlated. The performance scale was a 5-point Likert scale Spearman's rho, r (130) = 0.151, $p < .000$, as well as a simple regression, **β** 0.580. The coefficient correlation had a small effect, p <0.05 hence the alternative hypothesis is adopted. The findings are consistent with the literature review, which suggests

that affording employees learning and development opportunities to employees leads to employee retention (Arnold, 2005; Herman, 2005). Bratton *et al.*, (2003) also argue that organisations view learning at work as a tool that can be used to improve employee competence and drive career progression, thereby ensuring employee retention. The outcome results are significant therefore the null hypothesis can be rejected and the alternative hypothesis adopted, which is:

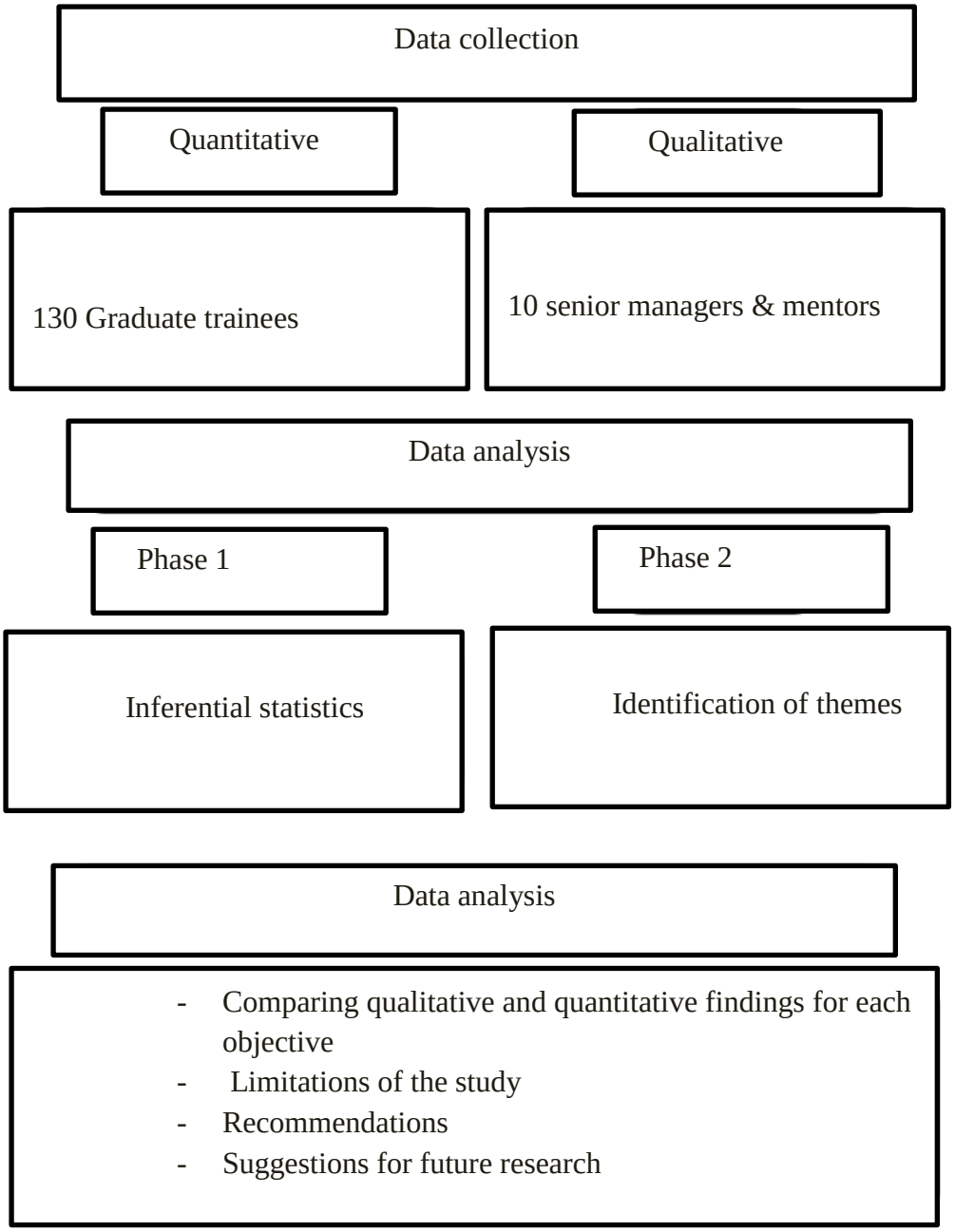
There is a positive correlation between workplace learning and employee retention.

It can be concluded from the findings that the research objectives of the study have been met and the formulated hypothesis is supported. The findings have also confirmed the importance of graduate development programmes in driving workplace learning. Respondents also demonstrated the value they attach to workplace learning as a process that exposes them to coaching and mentoring opportunities. There is also evidence from the findings that respondents view workplace learning as a process that facilitates career progression. Lastly, it is also evident from the findings that respondents view workplace learning as important in promoting employee retention. The study has therefore added to the already existing body of knowledge on graduates' early experiences at work while also introducing a new discourse in human resource development which addresses the significance of graduate development programmes in facilitating the transition from university to work through learning and development.

5.4 Triangulation of quantitative and qualitative data

Mixed methods research presents with it a lot of complexity hence Creswell & Plano Clark (2010) recommend that researchers provide a visual model of their particular research design. The design used in this investigation, as shown in Figure 4.6 below, was a 2-phase quan/qual concurrent triangulation model (Creswell, 2009).

Figure 4.6 ***Visual model of the research design***



The two research methods together produced largely consistent and convergent results. Survey results indicated that there was a strong and positive relationship between graduate development programmes and workplace learning while interview results also indicated that graduate development programmes promote workplace learning. These findings were formed on the basis of accounts by respondents that graduate development programmes involve training and development interventions which are aimed at equipping graduates with industry-relevant skills. Therefore, it can be argued that different measures of the same construct were

shown to yield similar results. The results from the quantitative study also indicted a moderate but positive relationship between workplace learning and coaching and mentoring while the qualitative results seemed to suggest that respondents felt strongly about the impact of coaching and mentoring on the workplace learning experience for graduates. In this case, the findings from both data sets seem to indicate that although similar results were yielded in that a positive relationship was ascertained, the extend of the relationship differs for both qualitative and quantitative findings. However, there were some surprises in the quantitative results which led to unexpected findings. This is because the quantitative and qualitative research methods yielded dissimilar results for the career progression and employee retention variables.

In terms of workplace learning and career progression, the survey results indicated that there was a weak but positive relationship while interview results indicated that respondents unanimously shared a view that workplace learning does in fact facilitate career progression. In addition, the survey results for workplace learning and employee retention indicated that although a positive relationship exists, it is a weak one. The results from the interviews on the other hand seem to suggest that when organisations invest in the training and development of graduates, they are more likely to strengthen their retention of the graduates than would be the case if the same is not done. Nonetheless, it is argued that when different measures yield dissimilar results, there is a need for the researcher to address the differences (Creswell, 2009). This is because divergence of results can often present an opportunity for enriching the explanation (Creswell, 2009). For example, in this study, respondents indicated that although workplace learning does indeed facilitate career progression, there are prevailing factors that often inhibit graduates from progressing within their respective organisations. Some of these were linked to race and gender dimension as well as misunderstandings arising from generational differences.

This is also the case in terms of employee retention which was argued to be mostly dependent on either lack of career progression opportunities or the overall organisational culture. Nonetheless, the process of compiling research material based on multiple methods is useful whether there is convergence or not although convergence is often seen as a good indicator of validity (Creswell, 2009). However, where divergent results emerge, alternative, and likely more complex, explanations are generated. It is in this respect that the first-hand knowledge drawn from qualitative methods can become critical. While one can rely on certain scientific

conventions for maximizing the credibility of one's findings, using triangulation offers opportunities to fully understand a research phenomenon (Creswell, 2009).

5.5 Summary of chapter

This chapter has provided a discussion on qualitative and quantitative research findings respectively. Nine themes that were derived from the qualitative study were discussed, relationships of research constructs highlighted, and justifications made with supporting literature. The quantitative findings presented a discussion on the research objectives in relation to literature. The chapter also provided a discussion on the formulated research hypothesis. The chapter also included a discussion on whether or not the study has met its research objectives and if the formulated hypothesis is supported. The significance of the study in contributing to an academic discourse was also discussed in the context of the prevailing findings. The last part of the chapter provided a discussion on the triangulation of the quantitative and qualitative study.

CHAPTER SIX

CONCLUSIONS, LIMITATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

6. Introduction

This is the concluding chapter of the research study. The chapter will discuss the conclusions by highlighting aspects of the study that were addressed, as well as present conclusions of the study based on the research findings. A discussion on the limitations of the study will also be presented as well as a discussion on recommendations and suggestions for future research.

6.1 Conclusion

This study has confirmed the importance of graduate development programmes in driving workplace learning. Workplace learning has also been confirmed to be a process that provides a platform for coaching and mentoring relationships which facilitate career progression. The study also confirmed that career progression promotes employee retention. The adoption of a mixed methods approach, combining qualitative and quantitative approaches, enabled the researcher to capture a wide range of narrative and statistical information in order to address the research objectives. Respondents from both the qualitative and quantitative sample groups perceived the value of workplace learning, and equally related it to the other research constructs. Essentially, the study indicates that it is important for universities to provide technical skills to engineering graduates in order to prepare them for the world of work. However, it is equally important for organisations to facilitate a successful transition for graduates from university to work through a series of learning interventions.

This study has evaluated the effectiveness of graduate development programmes in facilitating workplace learning for five different industries focusing on black engineering graduates. The study arrived at the following conclusions based on the empirical findings:

- Workplace learning presents many benefits not only for employees but for employers as well.
- It is also concluded that in order for workplace learning to succeed, organisations need to ensure that they drive a culture of learning.

- It is important for organisations to address issues of race and gender particularly taking into consideration the apartheid legacy in South Africa.
- Consideration should be given to the age composition of employees who participate in graduate development programmes, as age is presented as a factor that may affect the effectiveness of these programmes especially when considering generational differences in workplaces.
- Knowledge transfer is important in the workplace learning process, and coaching and mentoring can successfully facilitate this process.
- Coaching and mentoring can facilitate the career advancement of graduates.
- Workplace learning improves organisational commitment which can drive employee retention.

6.2 Limitations of the study

Access to sample group:

The sample size was anticipated to include an equal number of participants from the various industry types in order to ensure representation of all views. This goal was not met due to the inaccessibility of graduates in some organisations. As a result, participant numbers were varied in order to ensure that the sample size of 130 participants was maintained.

Reliability of measuring scales:

The graduate development scale was found to be internally inconsistent with a Crobach's Alpha of 0.467 with all four items included. However, when one item was removed, the scale became reliable with a Cronbach's Alpha of 0.705, which meant that three out of four items were considered for this scale.

Correlations:

Although the results indicate that there was a positive correlation between workplace learning and career progression, this correlation was found to be weak with a Spearman's rho correlation of 0.198. However the correlation was found to be statistically significant.

The results also showed that there was a positive correlation between workplace learning and employee retention. However, this correlation was found to be weak with a Spearman's rho correlation of 0.151. However the correlation was still found to be statistically significant.

Testing for normality

The findings indicated that the data was not normally distributed. However, literature has suggested that normality testing becomes less important when using large sample sizes, Drezner *et al.,* (2010). This therefore means a sample size of 130 research participants may have affected the normal distribution of the research data.

6.3 Recommendations

The research has highlighted not only the benefits of graduate development programmes and workplace learning for both graduates and organisations but also the challenges. In order to overcome the challenges of driving effective graduate development programmes and workplace learning, the following recommendations are made based on the research findings:

- Organisations should utilise graduate development programmes to promote workplace learning in order to facilitate the transition from school to work and equip graduates with the necessary industry-relevant competencies. This recommendation is based on the finding that a positive relationship exists between graduate development programmes and workplace learning. Graduate development programmes were also found to be the best predictor of workplace learning.

- Organisations should ensure that workplace learning is driven through coaching and mentoring relationships in order to facilitate organisational socialisation and knowledge transfer. This recommendation is based on the finding that there is a positive relationship between workplace learning, and coaching and mentoring.

- Organisations should provide learning opportunities that afford graduates the opportunity to continuously gain competencies that will allow them to progress in their careers. This recommendation is based on the finding that there is a positive relationship between workplace learning and career progression.

- Organisations should provide learning opportunities that are attractive to graduates in order to increase their organisational loyalty. For example, one way could be to afford graduates the opportunity to partake in international assignments or large challenging projects. This recommendation is based on the finding that a positive relationship exists

between workplace learning and employee retention. However, employee retention was found to be the least predictor of workplace learning.

6.4 Suggestions for future research

Future research could potentially provide a comparative analysis of workplace learning and graduate development programmes with a focus on race and gender differences in South African workplaces. This could be done to ascertain the benefits and challenges encountered by the different racial and gender groups. This study only focused on black graduates within the broad-based black economic empowerment definition of "Black"; which includes Africans, Coloureds and Indians. Although mention was made on gender differences in the context of black female engineering graduates and black male engineering graduates, this area was not explored much as it was not the focus of the study. Race and gender are socially embedded in every aspect of South African society and would therefore provide a critical lens with which to evaluate workplace learning and graduate development programmes. Webster & Von holdt (2005) also reiterated the importance of race and gender relations in South African workplaces. Murrel & Hayes-James (2001) also agree that the diversity that exists in the workplace means that individuals experience more race, gender and cultural diversity. It is therefore suggested that future research explore this area of study.

6.5 Summary of chapter

This chapter provided a conclusion to the research study highlighting the research approach adopted and the main conclusions drawn from the findings. This chapter of the study also presented a discussion on the limitations of the study. The sample size, reliability of scales, correlations and normality of data distribution were discussed to this effect. A discussion on the recommendations which are based on both the qualitative and quantitative research findings was presented. The chapter also provided a discussion on suggestions for future research where the researcher provided input of the research area that could be explored by other researchers, based on the findings of the current study.

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APPENDIX 1

PARTICIPATION LETTER

Participant Letter

Date: 06 June 2016

Good Day

My name is Sibongile Magwagwa and I am a Masters student in the school of Economic and Business Sciences at the University of the Witwatersrand, Johannesburg. Based on my experience as a Human Resources Generalist, I have developed an interest in Training and Development as well as Talent Management. As such I have endeavoured to carry out a study on Workplace Learning titled "**Workplace Learning**: ***an empirical evaluation of graduate development programmes for black (African, Coloured and Indian) engineers in South Africa***". The objective of this study is to investigate the effectiveness of graduate development programmes in the development and integration of black engineering graduates within their respective industries.

As a black engineering graduate you are invited to take part in this survey. The purpose of this survey is to find out how graduate development programmes promote workplace learning and the development of engineering graduates through coaching and mentoring relationships.

Your participation in this survey is important and there are no right or wrong answers. This survey will take approximately 15-20 minutes to complete and is both confidential and anonymous. Anonymity and confidentiality are guaranteed by not needing to enter your name on the questionnaire. You are however requested to provide your demographic information as this will assist in providing a thorough analysis of the information you provide. Your participation is completely voluntary and involves no risk, penalty, or loss of benefits whether or not you participate. You may withdraw from the survey at any stage.

Thank you for your consideration to participate in this survey. Should you have any questions, or should you wish to obtain a copy of the results of the survey, please contact me on (076) 271-4341 my supervisor on (011) 717-8124 or email us on smagwagwa@gmail.com or Olorunjuwon.Samuel@wits.ac.za respectively.

Kind regards,

Sibongile Magwagwa
Masters Student: Division of Human Resource Management
School of Economic and Business Sciences
University of the Witwatersrand, Johannesburg

APPENDIX 2

QUESTIONNAIRE

QUESTIONNAIRE

SECTION A: BIOGRAPHIC INFORMATION

Please provide, for statistical purposes, the following information about yourself by marking the appropriate answer with an X.

A1 Are you male or female?

Male	
Female	

A2 What racial group do you fall under

African	
Coloured	
Indian	

A3 What age group are you?

18-35	
35-55	
55 & above	

A4 What industry type do you work in?

FMCG	
Manufacturing	
Telecommunications	

Government Parastatal	
Petrochemical	

A5 How long have you been at your current company

1- 2 years	
2-5 years	
Above 5 years	

Please answer the following questions by marking the appropriate statement/box with an X. These appropriate statements will indicate the extent to which you agree or disagree with statements pertaining to graduate development programmes and workplace learning. The scale which will be used is provided below:

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Points	1	2	3	4	5

It is important to note that this questionnaire is strictly for research purposes only.

SECTION B: GRADUATE DEVELOPMENT PROGRAMMES

		strongly disagree	disagree	neutral	agree	strongly agree
1.	University prepared me for the technical challenges of the industry	☐	☐	☐	☐	☐
2.	University equipped me with non-technical skills like communication, team work and other soft skills to meet industry need	☐	☐	☐	☐	☐
3.	In my workplace, there is a structured programme to develop graduate engineers	☐	☐	☐	☐	☐

SECTION C: WORKPLACE LEARNING

		strongly disagree	disagree	neutral	agree	strongly agree
1.	University equipped me with non-technical skills like communication, team work and other soft skills to meet industry needs	☐	☐	☐	☐	☐
2.	It was easy for me to integrate into the industry, I had no surprises.	☐	☐	☐	☐	☐
3.	My organisation has a learning culture	☐	☐	☐	☐	☐
4.	I believe that formal class room learning is superior to workplace learning	☐	☐	☐	☐	☐
5.	At work I am able to learn the skills that support the competencies required for my position	☐	☐	☐	☐	☐
6.	Soft skills are just as important for me as an engineer as technical skills	☐	☐	☐	☐	☐

SECTION D: COACHING AND MENTORING

		strongly disagree	disagree	neutral	agree	strongly agree
1.	Relational job learning is important for knowledge transfer	☐	☐	☐	☐	☐
2.	I have a mentor who helps me integrate into the company	☐	☐	☐	☐	☐
3.	Mentoring relationships are important to develop black engineering graduates	☐	☐	☐	☐	☐
4.	I am comfortable with having a mentor of a different gender to mine	☐	☐	☐	☐	☐
5.	I am comfortable with having a mentor of a different race to mine	☐	☐	☐	☐	☐

SECTION E: CAREER PROGRESSION

		strongly disagree	disagree	neutral	agree	strongly agree
1.	The company provides opportunities for growth for black engineering graduates	☐	☐	☐	☐	☐
2.	It is easy for black graduates to take on management positions in my company	☐	☐	☐	☐	☐
3.	It is easy for black women to take on management positions in my company	☐	☐	☐	☐	☐

SECTION F: EMPLOYEE RETENTION

		strongly disagree	disagree	neutral	agree	strongly agree
1.	The training and development I receive at my company has increased my organisational commitment	☐	☐	☐	☐	☐
2.	I fit in well with the organisational culture	☐	☐	☐	☐	☐
3.	After completion of the programme, I would like to stay on in the company	☐	☐	☐	☐	☐

Please answer the following questions by marking the appropriate statement/box with an X. These appropriate statements will indicate the level of importance you attach to the components of graduate development programmes as well as the competencies that should be developed for black graduate engineers. The scale which will be used is provided below:

	Not important	**Fairly important**	**Important**
Points	1	2	3

SECTION G: COMPONENTS OF GRADUATE DEVELOPMENT PROGRAMMES

		Not important	**Fairly important**	**Important**
1	Coaching and mentoring			
2	Challenging assignments			
3	Competency assessment			

SECTION H: GENERIC COMPETENCIES FOR ENGINEERING GRADUATES

		Not important	**Fairly important**	**Important**
1	Technical engineering skills			
2	Team work			
3	Presentation skills			
4	Leadership skills			
5	Diversity awareness			
6	Communication skills			
7	Computer skills			
8	Interepersonal skills			
9	Conflict management skills			
10	Emotional intelligence			

Thank you for your participation in this survey. Your time and input are highly valued and appreciated.

APPENDIX 3

INTERVIEW GUIDE

Interview Guide: Semi-structured Interview

SECTION A: BIOGRAPHIC INFORMATION

A1 Gender

Male	
Female	

A2 Race

African	
Coloured	
Indian	
White	

A3 Designation

Mentor	
Snr Manager	
Both	

A4 Years of service

1-2 years	
3-5 years	
5 and more	

A5 Industry Type

FMCG	
Manufacturing	
Telecommunications	
Government Parastatal	
Petrochemical	

SECTION B: Interview Questions

1. What is the total number of engineering graduate trainees in your company?
2. Of the number above, how many are black males and how many are black females?
3. How do you recruit graduates who join your programme?
4. How would you rate the effectiveness of the graduate development programme in your company?
5. What are your views on the effectiveness of the graduate development programme in your company?
6. Do you believe that Graduate development programmes and mentoring drive workplace learning? Please elaborate
7. What are your views on race and gender dimensions and mentoring relationships?
8. What are your views on workplace learning and career progression?
9. What are your views on workplace learning and employee retention?
10. How long your company has ran graduate programmes?
11. Over the last 5 years how many black engineering graduates has your company recruited into the programme?
12. Of the black graduates who were recruited over the 5 years, how many were promoted to next level positions?
13. Of the black graduates who were recruited over the 5 years, how many are still with your company?

14. What factors might you say promote effective graduate development programmes?
15. What barriers can you mention that may inhibit the effectiveness of graduate development programmes?

APPENDIX 4

CONSENT FORM

CONSENT FORM

I hereby agree to participate in the research on the effectiveness of graduate development programmes in the development and integration of black engineering graduates within their respective industries.
I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I not want to continue and that this decision will not in any way affect me negatively and without any negative consequences'

I understand that this is a research project whose purpose is not necessarily to benefit me personally in the immediate or short term.

I understand that my participation will remain confidential.

I agree that direct quotes can be used in the final research project

…….. **……..**
Signature of participant **Date**

I hereby agree to the tape-recording of my participation in the study.

……..
Signature of participant **……..**
Date

APPENDIX 5

HUMAN RESEARCH ETHICS COMMITTEE APPROVAL

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Magwagwa

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H16/05/21**
PROJECT TITLE	Workplace learning: An empirical evaluation of graduate development programmes for black (African, Coloured and Indian) engineers in South Africa
INVESTIGATOR(S)	Ms S Magwagwa
SCHOOL/DEPARTMENT	Economics and Business Science/
DATE CONSIDERED	20 May 2016
DECISION OF THE COMMITTEE	Approved unconditionally
EXPIRY DATE	29 July 2019

DATE 30 July 2016 **CHAIRPERSON** _____
(Professor J Knight)

cc: Supervisor : Professor O Samuel

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10005, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

_____ _____/_____/_____
Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES