MENTORING DOCTORAL STUDENTS FOR KNOWLEDGE TRANSFER IN HIGHER EDUCATION: A COMPARISON OF A PRIVATE AND A PUBLIC UNIVERSITY IN KENYA

OBURA, ELIZABETH ATIENO

A Dissertation submitted to the Department of Educational Administration and Planning, Faculty of Education in Partial Fulfillment of the Requirements for the award of the Degree of Doctor of Philosophy in Education at The Catholic University of Eastern Africa

2016

DECLARATION

I, the undersigned, hereby declare that this dissertation is my hard work and has not been presented to any other educational institution for academic credit whatsoever. All the sources of information used herein, have been duly acknowledged.

Name: Obura Elizabeth Atieno

Reg. No: 1023478

Signature _____ Date 4/8/2016

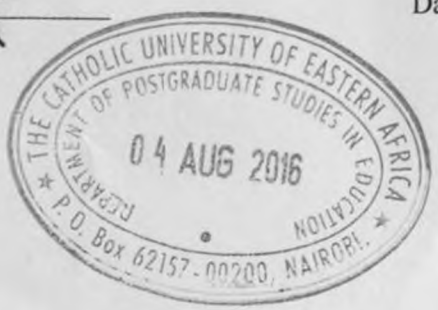
This dissertation has been submitted for examination with our approval as the Catholic University of Eastern Africa supervisors:

Sr. Dr. Jacinta M. Adhiambo
Senior Lecturer
The Catholic University of Eastern Africa

Signature _____ Date 4/8/2016

Dr. Paschal Wambiya
Senior Lecturer
The Catholic University of Eastern Africa

Signature _____ Date 04/08/2016



DEDICATION

To my late parents: Margaret Nancy Obura Ojijo and Patrick Joseph Oduori Okumu for initiating a firm mentoring foundation in me at infancy.

ABSTRACT

Mentoring, a process of influencing and fostering the intellectual development of students and their career aspirations has long been regarded as an important adjunct to teaching within higher education. Universities heed to the need for lecturers handling doctoral students to be mentors because they look up to these students to serve as lecturers upon completion. Considering the massification of higher education in countries such as Kenya, the need for mentoring in higher education cannot be overemphasized, especially if universities are to remain faithful to their core mission: knowledge generation. It is against this background that this study investigates mentoring of doctoral students for knowledge transfer in higher education in Kenya. This study sought answers to four questions. The study employed convergent parallel mixed methods design. Stratified random sampling and purposive sampling techniques were used. Questionnaire, interview guide and document analysis guide were used to collect data. Quantitative data was analyzed using descriptive and inferential statistics while qualitative data was summarized and paraphrased accordingly. The findings showed that most doctoral students lagged behind time in completing their studies, there is no disparity in mentoring doctoral students in public and private universities that took part in the study and the doctoral programme was intellectually challenging for most students. The study concluded that educational administrators are key players in mentoring doctoral students for knowledge transfer in higher education and that there was no disparity in how doctoral students are mentored in the public and private university. The study recommends that admission criteria for doctoral students should be tightened; mentoring for doctoral students should be formalized through the time bound mentoring theory and lecturers should be trained on how to mentor doctoral students for knowledge transfer.

ACKNOWLEDGEMENTS

I owe everything to Almighty God for His enduring love and unfailing presence in my life that have brought me this far.

I express my special thanks to my supervisors: Sr. Dr. Jacinta M. Adhiambo and Dr. Paschal Wambiya for their tireless commitment, direction and professionalism that facilitated the completion of this work.

My heartfelt gratitude goes to my siblings: Sospeter Ochieng', Mary Goretti Akinyi, Polycarp Obura, Maurice Obura and Collins Obura for according me the much needed moral support and encouragement as I laboured on this dissertation. I thank especially, Patricia Echessa, Charles Onyango, Eunice Omondi, Stephen Mailu, Mary Omondi, Mary Goretti Nafula and Collins Ochieng' for their outstanding encouragement throughout my student life in CUEA. I am grateful to Nicholas Muganda for his encouraging support. I have to mention Rev. Fr. John Ogolla, Rev. Fr. Dunstan Epaalat, Rev. Prof. John Maviiri, Rev. Dr. Ambroise Kahumba, Br Roger Imaniraguha Kamuzinzi and Br. Adrian Nyamrinda for their sustained support and prayer.

I am grateful to the management of the University of Nairobi and the Catholic University of Eastern Africa for allowing me to collect data for this study within their campuses. I thank all the doctoral students, supervisors and chairmen of departments who accepted to participate in this study by completing the questionnaires. I also thank all the administrators from the two universities who willingly allowed me to interview them.

I thank lecturers in the Faculty of Education at the Catholic University of Eastern Africa in general and those in the Department of Educational Administration and Planning in particular for the enormous support and encouragement. To my colleagues and friends thanks to all of them for offering good company throughout my academic journey in CUEA.

May I thank all those who readily accepted to validate the study instruments as well as those who granted me chance to pilot test. Much gratitude to Prof. Henry Mutoro, Prof. Winston Akala, Prof. John Oucho, Prof. Anselm Odhiambo, the late Rev. Dr. Joachim Msaki, Rev. Dr. John Muhenda, Dr. Simon Kang'ethe, Dr. Jeremiah Kalai and Mr. Humphrey Webuye for the maximum assistance they gave me during the data collection phase.

TABLE OF CONTENTS

DECLARATION ii
DEDICATION iii
ABSTRACT iv
ACKNOWLEDGEMENTS v
TABLE OF CONTENTS vii
LIST OF TABLES xii
LIST OF FIGURES xiv
ABBREVIATIONS AND ACRONYMS xv

CHAPTER ONE 1
INTRODUCTION 1
1.1 Background to the Study 1
1.1.1 Mentoring 3
1.1.2 Mentoring in Higher Education. 10
1.1.3 Knowledge Creation and Transfer in Higher Education. 16
1.1.4 Policy Framework on Mentoring Doctoral Students for Knowledge Transfer 20
1.2 Statement of the Problem 23
1.3 Research Questions 25
1.4 Hypotheses 25
1.5 Significance of the Study 26
1.6 Scope and Delimitation of the Study 27
1.7 Theoretical Framework 29
1.7.1 Strengths of the Social Exchange Theory. 31
1.7.2 Weaknesses of the Social Exchange Theory. 32
1.7.3 Relevance of the Social Exchange Theory to the Study. 33
1.8 Conceptual Framework 36
1.9 Operational Definitions of Key Terms 40

CHAPTER TWO 42
REVIEW OF RELATED LITERATURE 42
2.1 Introduction 42

2.2 Review of Theories in the Context of the Study 42
2.2.1 Andragogy Theory. 42
2.2.2 Stage Theory. 46
2.3 Review of Empirical Studies in the Context of the Study 49
2.3.1 Forms of Mentoring given to Doctoral Students for Knowledge Transfer 50
2.3.2 Strategies of Mentoring Doctoral Students for Knowledge Transfer. 54
2.3.3 Factors affecting Mentoring Doctoral Students for Knowledge Transfer. 58
2.3.4 Perceptions of Doctoral Students towards Mentoring for Knowledge Transfer. 65
2.4 Critique of Reviewed Literature and Knowledge Gap 71

CHAPTER THREE 72
RESEARCH DESIGN AND METHODOLOGY 72
3.1 Introduction 72
3.2 Research Design 72
3.3 Target Population 73
3.4 Sample and Sampling Procedures 74
3.4.1 Universities. 75
3.4.2 Campuses. 76
3.4.3 Deputy Vice Chancellors, Academic Affairs. 77
3.4.4 Directors, Boards of Postgraduate Studies 77
3.4.5 Faculties and Faculty Deans. 77
3.4.6 Departments and Chairmen of Departments. 78
3.4.7 Supervisors 79
3.4.8 Doctoral Students 79
3.4.9 Sampling Matrix for All Participants 80
3.5 Description of Research Instruments 81
3.5.1 Questionnaires. 81
3.5.2 Interview Guide. 83
3.5.3 Document Analysis Guide 84
3.6 Validity and Reliability of Research Instruments 85
3.6.1 Validity. 85

3.6.2 Pilot Testing. 86
3.6.3 Reliability of Research Instruments. 86
3.6.4 Credibility and Dependability of Qualitative Research Instruments. 88
3.7 Data Collection Procedures 90
3.8 Data Analysis Procedures 92
3.9 Ethical Considerations 93
3.9.1 Proposal Development Phase 94
3.9.2 Data Collection Phase. 94
3.9.3 Report Writing Phase. 95

CHAPTER FOUR 97
PRESENTATION, DISCUSSION AND INTERPRETATION OF FINDINGS 97
4.1 Introduction 97
4.2 Background Information of the Participants 98
4.2.1 Background Information of Doctoral Students. 98
4.2.2 Background Information of Supervisors. 101
4.2.3 Background Information of Chairmen of Departments. 105
4.2.4 Background Information of Deans, Directors and Deputy Vice Chancellors. 107
4.3 Forms of Mentoring Doctoral Students for Knowledge Transfer 110
4.3.1 What is Mentoring? 110
4.3.2 Awareness on Availability of Mentoring Programme. 113
4.3.3 Forms of Mentoring Offered to Doctoral Students. 114
4.4 Strategies for Mentoring Doctoral Students for Knowledge Transfer 118
4.4.1 Goal Setting. 119
4.4.2 Social Interaction. 121
4.4.3 Teamwork. 124
4.4.4 Reciprocation 127
4.4.5 Conferencing. 129
4.4.6 Presentation. 133
4.4.7 Supervision. 134
4.5 Factors affecting Mentoring Doctoral Students for Knowledge Transfer 138

4.5.1 Involvement Level of Doctoral Students in Knowledge Transfer Activities. 138
4.5.2 Involvement Level of Supervisors in Knowledge Transfer Activities. 143
4.5.3 Involvement Level of Chairmen of Departments in Knowledge Transfer Activities. 147
4.6 Perceptions of Doctoral Students toward Mentoring for Knowledge Transfer 154
4.6.1 Mean Perception Scores when Doctoral Students are categorized by Sex. 159
4.6.2 Mean Perception Scores when Doctoral Students are categorized by Year of Study. 161
4.6.3 Mean Perception Scores when Doctoral Students are categorized by Age. 163
4.6.4 Mean Perception Scores when Doctoral Students are categorized by University. 164
4.6.5 Mean Perception Scores when Doctoral Students are Categorized by Area of Specialization. 166
4.7 Challenges facing Mentoring Doctoral Students for Knowledge Transfer 169
4.8 Suggested Ways of Addressing Challenges 173

CHAPTER FIVE 179
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY 179
5.1 Introduction 179
5.2 Summary of the Study 179
5.3 Conclusions 185
5.4 Recommendations 187
5.5 Suggestions for Further Research. 190

REFERENCES 191

APPENDICES 206
Appendix I : Questionnaire for Doctoral Students 206
Appendix II: Questionnaire for Supervisors 211
Appendix III: Questionnaire for Heads Of Departments 216
Appendix IV: Interview Guide for Faculty Deans & Directors of Boards of Postgraduate Studies 221
Appendix V: Interview Guide for Deputy Vice Chancellors, Academic Affairs 223
Appendix VI: Document Analysis Guide 225
Appendix VII: Survey/Interview Validation Rubric for Expert Panel 226

Appendix VIII: Types of Validity 227
Appendix IX: Participants' Informed Consent Form A 228
Appendix X: Participants' Informed Consent Form B 230
Appendix XI: Introductory Letter from Cuea 232
Appendix XII: Research Permit 233
Appendix XIII: Research Authorization Letter from NACOSTI 234
Appendix XIV: Data Collection Authorization Letter from CUEA 235
Appendix XV: Data Collection Authorization from the University of Nairobi 236
Appendix XVI: Map Showing Nairobi and CUEA Universities 237
Appendix XVII: Map of Kenya Showing the Location of Study 238

LIST OF TABLES

Table 1 Target Population Matrix 74
Table 2 Summary of Sampling Matrix for the Study 80
Table 3 Reliability Statistics 88
Table 4 Background Information of Doctoral Students 99
Table 5 Background Information of Supervisors 102
Table 6 Background Information of Chairmen of Departments 105
Table 7 Background Information of Deans, Directors and Deputy Vice Chancellors 108
Table 8 Awareness on availability of Mentoring Programmes by Doctoral Students 113
Table 9 Forms of Mentoring Programmes offered to Doctoral Students by upervisors 114
Table 10 Doctoral Students, Supervisors and Chairmen use of Goal setting as a Mentoring Strategy 120
Table 11 Doctoral Students, Supervisors and Chairmen use of Social Interaction as a Mentoring Strategy 122
Table 12 Doctoral Students, Supervisors and Chairmen use of Teamwork as a Mentoring Strategy 125
Table 13 Doctoral Students, Supervisors and Chairmen use of Reciprocation as a Mentoring Strategy 127
Table 14 Doctoral Students, Supervisors and Chairmen use of Conferencing as a Mentoring Strategy 130
Table 15 Doctoral Students, Supervisors and Chairmen use of Presentation as a Mentoring Strategy 133
Table 16 Supervisor Allocation to Doctoral Students 135
Table 17 Doctoral Students, Supervisors and Chairmen use of Supervision as a Mentoring Strategy 136
Table 18 Participation of Doctoral students in Mentoring for Knowledge Transfer 139
Table 19 Involvement of Supervisors with Doctoral Students 144
Table 20 Involvement of Chairmen of Departments with Doctoral Students 148
Table 21 Doctoral Students' Responses and Means on Mentoring for Knowledge Transfer in Higher Education 155
Table 22 Mean Perception Scores when Doctoral Students are categorized by Sex 160

Table 23 Difference in Mean Perception Scores when Doctoral Students are categorized by Year of Study 162
Table 24 Mean Perception Scores when Doctoral Students are categorized by Age 163
Table 25 Mean Perception Scores when Doctoral Students are categorized by University Category 165
Table 26 Mean Perception Scores when Doctoral Students are categorized by Area of Specialization 167
Table 27 Output for Post Hoc Tests 168
Table 28 Challenges facing Mentoring Doctoral Students for Knowledge Transfer 170
Table 29 Suggested Ways of Addressing Challenges 174

LIST OF FIGURES

Figure 1: Factors affecting Knowledge Transfer in Higher Education 37

Figure 2: Time Bound Mentoring Theory 153

ABBREVIATIONS AND ACRONYMS

AKTP	African Knowledge Transfer Partnership
APA	American Psychological Association
ARWU	Academic Ranking of World Universities
BPS	Board of Postgraduate Studies
CET	Centre for Excellence in Teaching
CHE	Commission for Higher Education
CREMM	Collaborative Responsive Education Mentoring Model
CUE	Commission for University Education
CUEA	Catholic University of Eastern Africa
CV	Coefficient of Variation
DA	Dean of Arts
DB	Dean of Business
DE	Dean of Education
df	degree of freedom
Dr	Doctor
DVCs	Deputy Vice Chancellors
et al.	And others
EU	European Union
FoE	Faculty of Education
FP7	Framework Programme 7
Fr	Father
GoK	Government of Kenya
HE	Higher Education

HEIs	Higher Education Institutions
HEFCE	Higher Education Funding Council for England
HELB	Higher Education Loans Board
HoD	Head of Department
ICT	Information and Communication Technology
ILO	International Labour Organization
IST	Information Systems Technology
IUCEA	Inter University Commission for East Africa
KMSBM	Knowledge Management System Based Mentoring
KU	Kenyatta University
LDCs	Least Developed Countries
MBA	Master of Business Administration
MoHEST	Ministry of Higher Education, Science and Technology
MoHTE	Ministry of Higher and Technical Education
NACOSTI	National Commission for Science, Technology and Innovation
NESC	National Economic and Social Council of Kenya
OECD	Organization for Economic Co-Operation and Development
PHEA	Partnership for Higher Education in Africa
PhD	Doctor of Philosophy
Prof	Professor
qual	qualitative is less dominant
QUAN	Quantitative is dominant
Rev	Reverend

RoK	Republic of Kenya
RGS	Rackham Graduate School
RoK	Republic of Kenya
SA	Strongly Agree
SET	Social Exchange Theory
SD	Strongly Disagree
SIDs	Small Island Developing States
Sig.	Significance
SLT	Social Learning Theory
SMEs	Subject Matter Experts
Sr	Sister
SSA	Sub Saharan Africa
ST	Stage Theory
St	Saint
SVT	Sources of Variance Theory
TBMT	Time Bound Mentoring Theory
UK	United Kingdom
UMB	University Management Board
UNESCO	United Nations Educational, Scientific and Cultural Organization
UoN	University of Nairobi
USIU	United States International University
VREP	Validation Rubric for Expert Panel
ZIMCHE	Zimbabwe Council for Higher Education

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Having a mentor has been perceived in traditional educational settings as an important way in which doctoral students seem to learn the rules and succeed in their graduate education. Campbell and Campbell (2002) point out that mentoring is a basic form of education for human development which provides a holistic yet individualized approach to learning. Moreover, mentoring constitutes a good example of experiential learning, that is, learning resulting from or associated with experience. Since doctoral studies serve to shape professional attitudes and values, then mentoring is a way in which doctoral students can be assisted in meeting the challenges of their present academic and future professional lives.

According to Harris (2002) much attention on mentoring on campus has been directed toward the undergraduate rather than graduate training and development. We can argue that the success of doctoral students depends on a student-lecturer mentoring relationship based on integrity, trust and support. This implies that quality doctoral programmes have faculty mentor system where students can access advice, counsel, and any other helpful direction in their training. Perhaps, this is why it is expected then that at doctoral level, mentoring relationships flourish between the doctoral students and their lecturers. In this regard, mentoring doctoral students, as posited by Horowitz and Christopher (2013), is a common emphasis throughout the world in order to contribute to completion of degrees and ensure the success of future educational pursuit.

According to Scandura and Pellegrini (2004), excellent mentoring relationships (mentorships) in graduate settings are dynamic, reciprocal, and personal. Mentoring a doctoral

student requires a more experienced lecturer to act as a guide, role model, teacher, and supervisor of a less experienced doctoral student. Mentors provide a range of crucial career and relational functions to students and mentoring signifies intentional and generative career development in the context of an increasingly bonded and reciprocal relationship. This implies that there is need for all lecturers handling doctoral students to be mentors. However, as Thomas, Willis and Davis (2007) point out, it is a common myth in higher education that any faculty member is a good mentor, and that any senior person can mentor a junior person. The question one asks is: How well are the faculty prepared during their studies for the mentoring duty awaiting them as lecturers? Given the social context in which many doctoral students study, this study examined how the mentoring offered to doctoral students can help sustain knowledge transfer in the context of higher education in Kenya.

Not only does mentoring develop the mentee's profession, but Monk, Irons, Carlvin and Walker (2010) advance that by not mentoring, talent is wasted. In essence, they imply that without mentoring, universities educate, train but fail to nurture. Mentoring is useful and powerful in understanding and advancing institutional and professional culture. Considering that many Higher Education Institutions (HEIs) confront seemingly unrelated needs of doctoral students, mentoring should be taken seriously. For example, doctoral students need not only to complete their dissertations but also to learn how to become proficient mentors for undergraduates and graduate, as they move on to lecture roles.

Although the role of the university can be perceived differently, universities have certainly occupied an important place in contemporary society. The strategic societal position of the university can be attributed to its many functions. For example, according to Humburg, van der Velden and Verhagen (2013), universities have a tripartite mandate of knowledge generation

(research), knowledge transmission (teaching) and knowledge transfer (responsive social engagement). Whereas this study acknowledges the tripartite functions of the university, it focused only on knowledge transfer. This notwithstanding, Yeaton (2007) contends that universities have travelled the long road to new generation universities that have to respond to global trends. The global trends are emanating from challenges of globalization, turbulences occurring in the university environment as well as problems such as mass access to education. It is on this backdrop that this study sought to explore mentoring doctoral students for knowledge transfer in higher education in Kenya.

Higher education in Kenya has been faced with a myriad of issues such as rapid growth in number of universities, increased university programmes, overwhelming student growth and issues of quality (CUE, 2013). The CUE chief executive, Some (2015) points out that students are taking too long to complete their studies due to poor supervision. While speaking at the 5th East Africa higher education quality assurance forum, Some adds that students face three problems: lack of time; poor supervision and failure by the Senate to discontinue students who fail to complete their studies within stipulated time of three years (CUE, 2013). These insights are a few of those informing the backdrop upon which this study conceived that mentoring doctoral students for knowledge transfer is imperative to address the looming threat in the country's higher education sector.

1.1.1 Mentoring.

The term "mentor" as noted by Ragins and Kram (2007), stemmed from Greek mythology and originates from Homer's Odyssey. According to Bittlestone, Diggle and Underhill (2005), Odysseus, king of Ithaca, before going to the Trojan War, gave to Mentor, his best friend and a wise man, the task to manage his property and his assets, as well as the

education of his son, Telemachus. This classic attribute of mentoring eludes to its crucial role in the practice of education hence higher education as well. Consequently, Mentor started to play a major role in Telemachus' education and evolution. Mentoring has since come to be used for a variety of relationships. Some of its synonyms include teacher (Lovitts, 2008), sage, mahatma, authority (Rose, 2005), counselor, role model (Johnson & Howe, 2003), coach, guide, friend, and adviser (Gardiner, 2008). An alternative perspective comes from Cropper (2000) who describes an African conceptualization of mentoring whereby in Ethiopian Amharic language, the word 'Jegna' means mentor. Cropper argues that within contemporary society, mentoring is used in many different organizational settings and is generally accepted to refer to "a more experienced and respected member of a group who will offer support, guidance, coaching and tutoring", (p. 600).

Great personalities of universal culture have admitted, throughout history, that they had their own mentors. For instance, Tole (2005) alludes that Socrates was Plato's mentor, Archimedes was Galileo Galilei's mentor, Hyden was Beethoven's mentor, Freud's was Jung, Rodin was Brâncuşi's mentor, Peter Druker was Jim Colins's mentor, Douglas McGregor was Waren Bennis' mentor, Waren Bennis was Tom Peters' mentor. Many of today's scientists of global recognition proudly admit that they are continuators, in various fields, of what they started with their great mentors. Some entrepreneurs and famous managers explain their success in business through the role played in their lives by mentors whose advice became strong principles. This explains phrases such as "Behind a successful man, there is a wise woman, or behind a successful man, there is a successful man"; often, a person can play a major role in another person's life.

Drawing from the Greek myth, Karcher (2005) suggests that a mentor should: be suitably experienced, act as a confidential advisor and guide to mentee, be wise and trusted counselor, have travelled the mentee's path, and stimulate professional development. These qualities make lecturers the right mentors for doctoral students within the context of higher education. Furthermore, mentoring doctoral students is characterized as: a long-term process; sharing experience; offering encouragement; insight through reflection; and mutual learning. This implies that mentoring is a two- way relationship where both mentor and mentee benefit. This is especially true taking into account Schlosser, Knox, Moskovitz, and Hill (2003) that doctoral students bring to the mentoring relationships more complex and sophisticated thinking abilities. These aspects shape mentoring activities in higher education: to prepare doctoral students for the responsibilities and tasks ahead.

Mentoring has imposed itself recently, according to Udrescu and Coderie (2014), as a sort of retro fashion, due to the recognition that a person can be someone else's mentor. The definitions of mentoring are numerous and the process that can be found in most social functions such as the family, school, peer group and organization. Mentoring is a manifestation of the organizational culture in which a person invests time, energy, knowledge, skills, in order to develop another person, due to professional obligations and mutual interests. The mentoring process can be likened to erecting a building. Mentors are like builders who lay the foundation, then floor by floor, the installations, then the roof, and the functionality of the building. Similarly, in educational mentoring, the building of professional education and life education of the mentee is the outcome of a harmonious action of several mentoring activities. Johnson (2008) adds that a mentor is a gatekeeper to the profession who should screen candidates for emotional, ethical, interpersonal and academic fitness. This implies that mentors have a responsibility of not

permitting candidates with impairments in any of these areas to move into a profession that requires public trust such as teaching in higher education. The rationale behind this is the assumption that the mentor will be more knowledgeable than the mentee. This means that the successful mentor is that person who helps the mentee to tap into his/her knowledge and gain more than the mentor. People are as good as their teacher or, in the context of this study, as their mentor.

Mentoring is an old practice that has gained momentum in recent years, which involves smoothing the way, enabling, reassuring, as well as directing, managing and instructing mentees. In their argument, Nsamenang and Tchombe (2011) advance that mentoring is dynamic and has had different meanings in different settings within different disciplines. For instance, a mentor in the traditional African society was seen as a person who was entrusted with the care and teachings of the youth as they went through different apprenticeships in order to instill in them some skills. This is why this study sought to find out how mentoring doctoral students for knowledge transfer in higher education is done. The study placed doctoral students at its centre with the notion that they brace themselves for professional duties upon completion of their terminal degrees.

The modern day mentoring, according to Clutterbuck (2001), has its origin in the concept of apprenticeship and has in recent years gained a strong foothold in many organizations. This notwithstanding, the concept of mentoring seems to evolve in meaning with each new decade. For example, Stodgil (1960) defined a mentor as an 'ambitious authority figure'. In the 1970s, a mentor was viewed by Levinson (1978) as a 'transitional figure in a man's life'. Around 1980s, a mentor was defined by Kram (1985) as a 'tutelage manager' although with the increased flattening of organizations and self-reliance, this position has lost relevance. Lately, mentoring

has been described by Johnson (2007) as a 'developmental alliance', a relationship in which someone is helped to develop him/herself. This study found the developmental alliance approach to mentoring appropriate for the Higher Education (HE) sector. According to Douglas (1997), a relationship is categorized as developmental when the experience motivates the individual to want to learn and grow, exposes him or her to learning opportunities, and provides support for the learning and growth. This perspective provides an alternative to ongoing debates over the differences among different types of mentoring relationships.

Within the university context, both formal and informal mentoring programmes exist. The history of the use of formal mentoring relationships for the purposes of development dates to 1931 when The Jewel Tea Company in the USA implemented a formal program. Under the programme, each Masters of Business Administration MBA who entered the firm was assigned to a senior manager who served as a mentor during the newcomer's early-career period (Russell, 1991). Formal mentoring programs didn't grow significantly until the 1980s, when their rapid expansion was fueled by the attention given to the effectiveness of informal mentoring relationships in the literature and to the growing body of work that supported the importance of developmental relationships in career development. Kram and Bragar (1991) opine that various economic and societal trends during this period also facilitated this growth: competitive challenges, labor shortages, large numbers of organizational mergers, the focus on innovation and technology, cross-cultural issues, affirmative-action goals, the awareness of the needs of an increasingly diverse workforce, and the need for better succession planning and management development.

A formal mentor, as defined by Zey (1991), is "a person who oversees the career and development of another person, usually a junior, through teaching, counseling, and providing

psychological support, protecting, and at times promoting or sponsoring" (p.7). On their part, Murray and Owen (1991) define formal mentoring in terms of structures and processes designed to create effective mentoring relationships. They emphasize that the primary purpose of these structured relationships is the development of the skills and leadership abilities of less experienced organizational members.

According to Zey (1991), an informal mentoring relationship is typically defined as an intense relationship, lasting eight-to-ten years, in which a senior person oversees the career and psychosocial development of a junior person. Specific mentoring roles may include sponsoring, teaching, coaching, protecting, counseling, and role-modeling (Gray & Gray, 1990; Kram & Bragar, 1991). However, there is a wide continuum of ways of viewing informal mentoring, ranging from definitions that stress individuality and long-term commitment to definitions that revolve around short-term, focused coaching activities (Carden, 1990; Rosenbach, 1993). Furthermore, Gray and Gray (1990) argue that it is inappropriate to base definitions of formal mentoring relationships on definitions of informal mentoring relationships because planned, or formal, mentoring programs are distinctly different from informal mentoring relationships.

Informal mentoring occurs every day in various settings. Most informal mentoring is anonymous and hidden in organizations, and for that reason, it is still regarded by many organizations and individuals as both less significant and less legitimate than formal mentoring. Rarely is informal mentoring embraced on an organizational level with the same enthusiasm, seriousness, and support as its more organized counterpart. Informal mentoring relationships are usually described as unstructured, casual, and natural. As pointed out by Gray and Gray (1990), one of their special characteristics is that there is no rule of thumb; each relationship is idiosyncratic and can last for a week, many months, or a lifetime. Informal mentoring

relationships are serendipitous, spontaneous, self-selected, and situational relationships, with each proceeding at its own pace and on its own timetable. Within informal mentoring, there is considerable variation as to how relationships play out. Popular wisdom to the contrary, informal relationships run the gamut from casual, off-the-cuff conversations, to "flash mentoring" (conversations and information sharing taking place on an as-needed basis), to more structured and formalized relationships. The informal mentoring relationships characterized major aspects of the indigenous African education systems where teaching and learning took on the form of apprenticeship.

Indigenous African education has generally been understood as a simplistic process of socialization involving the preparation of children for work in the home, the village and within a select ethnic domain (Funteh, 2015). In relation to mentoring, the understanding of the African educational system was perhaps influenced by the preparationist aspect of the educational system which was apprentice in nature. It is for this reason that Marah (2006) says that the indigenous African indigenous tutoring involved understanding education as a means to an end. The end being social responsibility, spiral and moral values, participation in ceremonies and rituals, imitation, recitation, demonstration, sport, epic, poetry, reasoning, riddles, praise, songs, story-telling, proverbs, folktales, word games, puzzles, tongue-twisters, dance, music, plant biology, environmental education, and so on that formed the bases of mentoring.

The African child was educated to know, internalize and practice roles appropriate to sex and age. In the early years of childhood, the child's education was largely in the hands of the biological mother, and the community assumed the greater role as adolescence approached. Thus, language training is received from the mother, and the extended family. The peer group, or age-set also become significant as the youth approaches the stage of circumcision. At this stage

orature, comprising of myths, legends, folksongs and folktales, proverbs, dances, and so on are all in line to prepare the youth for adulthood. According to (Smith, 1940) the oratory form constituted one of the means through which this education was given in the African context. This was therefore highly characterized by mentoring as a means of transferring the community knowledge.

1.1.2 Mentoring in Higher Education.

The nature of higher education at masters' and doctoral levels is such that without some kind of support, success cannot be guaranteed. According to Mudhovozi (2013), problems associated with mentoring are the most cited reasons for non-completion of research projects among doctoral students. Mentors have a crucial role in initiating students into research, enthusing them and stretching their minds (Johnson, 2007). To fulfill such a responsibility, the mentor needs skills in writing and reviewing papers, management of time and commitment, development of ethical judgment and standards for treating others fairly. Though mentoring takes place at all levels in higher education, this study was limited to mentoring at doctoral level.

Doctoral education is reported by Yob and Crawford (2012) as having a history of individual mentoring of students as a means of guiding them through their research and introducing them into the academic community. Generally, mentoring also introduces doctoral students to professional networks and launches their academic career by providing a supportive and personal relationship. For the student, the mentor has psychological and professional resources to preserve objectivity at all the three stages of the educational act: transfer of knowledge, assessment and designing of solutions for given situations. The mentor facilitates creative thinking, connects the disciples to the issues, suggests solutions according to the moment, cultivates the disciples' trust in their own forces, enjoys the others' success.

A need for mentoring at university level, as postulated by Bruce and Bridgeland (2014), is well documented in literature. Unfortunately, Parsonson (2011) contends that most of the mentoring programmes at the higher education level are not successful. Griffin (2012) attributes the failure of mentoring in Higher Education Institutions (HEIs) to faculty mentors who often lack the basic understanding of what the mentoring process entails. For instance, many lecturers understand mentoring to be counseling and/or advising which is part of the bigger picture, but without acknowledging that the concept goes well beyond these. According to Johnson (2007), one fundamental difference between mentoring and advising is that mentoring is broader in scope than advising and encompasses advising as well, but advising does not encompass mentoring. In most cases, mentoring is both personal as well as professional relationship which develops over a longer period within which the doctoral student's needs and nature tend to change. Mostly, the mentor tries to be aware of these changes and varies the amount and type of attention, advice, information, encouragement and support offered to the mentee. Depending on the quality of the relationship, an advisor may or may not be a mentor.

Mentoring can be used as a form of succession planning to ensure the views of out-going leaders are perpetuated by their mentees (Lam & Lambermont-Ford, 2010). In this way, mentoring is regarded as an effective method for knowledge transfer within the university context. Similarly, Feiman-Nemser (2001) advances that mentoring a doctoral student is a prerogative of every university lecturer. Lecturers can mentor doctoral students by fostering and maintaining, as observed by Levy, Hadar, Greenspan, and Hadar (2010) and McNichols (2010), a university atmosphere and culture that values sharing. Higher education institutions (HEIs) should consider the adverse impact of cultural, generational, and social barriers between the doctoral students and lecturers. In other words, the university needs to accommodate open and

honest communication, encourage respectful and trusting relationships, and express value in effective mentoring relationships through all its knowledge transfer activities. For example, team work, creativity, innovativeness and ongoing consultation should be common features.

Effective mentoring of doctoral students should be perceived and understood as a process that is much more sophisticated than simply sharing craft knowledge when called upon by students (Felder, 2010). Rather, as Crisp and Cruz (2009) point out, mentoring is a proactive support and guidance process in which an academic and professional contract is established between the mentor and mentee. From this argument, it can be said that there is always an ever increasing demand for lecturers to mentor doctoral students in their faculties as a way of ensuring effectiveness and efficiency of the overall educational institution(s) even long after the latter have graduated and left. The overriding question to this study was to determine how much time lecturers have to mentor doctoral students in as far as preparing them to teach in higher education is concerned.

Many graduate programmes are reviewing how they mentor their students, taking into account the time taken before graduation and the low completion rates in their programmes (Wright & Schram, 2010). They advocate that, given the multiple functions of mentorship and developmental stages of graduate students, it is advisable for students to have a variety of mentoring. For example, Horowitz and Christopher (2013) argue that depending on the stage of graduate work on which they find themselves, doctoral students go through three mentoring relationships. During the first stage (transition and adjustment), mentors help doctoral students to fit in their respective faculties and get attached to the advanced doctoral students. In the second stage, doctoral students are undertaking course work and eventually write comprehensive examinations. At this level, the mentor assists the doctoral student with the acquisition of

knowledge. Lastly, the dissertation writing phase calls on the mentor to guide the doctoral student towards successful completion of the dissertation. However, this study did not resonate with the argument advanced by Horowitz and Christopher, taking into account the large student populations and the high workloads that lecturers have to contend with in some contexts; for example, in Africa.

Mentoring in higher education in developed countries such as the US, (Bergerson and Peterson, 2009; Wheeler, Keller, and DuBois, 2010), the UK (Alexander, 2006) and to a lesser Australia, (Harris and Calma, 2009; Harris and Shaw, 2006) has been well researched. The underlying factor in these studies, no matter the focus, is that mentoring is a prominent factor, according to Crawford and Smith (2005), leading to upward mobility of the doctoral students, success in education, and personal development. With the accelerated demand for higher education, the need for visibility of mentoring in universities in Africa cannot be overemphasized. This is why this study was carried out on mentoring doctoral students for knowledge transfer in higher education in Kenya.

Universities can provide mentoring to doctoral students in form of research and publication, teaching, presentation in class, co-authorship, co-presentation of papers in conferences and article writing among others (Munroe, 2009). The provision of mentoring to doctoral students is the prerogative of the respective university where the student is studying. This raises the question of how mentoring in higher education, especially of doctoral students who are bound to become lecturers in the several universities in the country, is done. This was the concern of this study. Although the roles and behaviours are likely to vary from one relationship to another, Hawley and Jordan (2015) optimize that there are tripartite modes of

mentoring that capture the sum of mentoring activities: academic midwifery; role moulding; and frientoring.

Academic midwifery has been described by the Center for Excellence in Teaching [CET] (2013) as the way in which lecturers assist doctoral students in producing new ideas and scholarly insights within the mentoring relationship. Within this perspective mentors are encouraged to bring to life the otherwise dormant potential within their mentees because if this is not done, then the potential risks going to waste. The mentor's greatest responsibility is to nurture the intellectual souls of the doctoral students by assisting them to deliver research methodologies, intellectual ideas along with professional practices. According to Rackham Graduate School [RGS] (2014), a good academic midwife is committed to the intellectual and professional development of the doctoral student, respects opposing ideas and adapts to various approaches. The mentor must be available when students are having intellectual 'contractions' to encourage the latter and nurture to life their newly born ideas. By all standards, a good mentor coaches and guides the mentees through the intellectual birthing process and delivers them safely into the professional arena.

Doctoral students need role models who act as symbolic figures of what is possible or aspired. Berberet (2008) warns that caution should be taken here so that the mentor does not shape the mentee into his/her academic and social shapes at the expense of the latter's. Although this may seem difficult, if the mentor teaches through confirming and questioning usefulness and appropriateness of the mentee's activities, it can be easy to maintain focus on the latter's desired career goal and/or research outcome. This can be achieved by supporting career aspirations of mentees, and promoting their success through publications, and conferencing recommending for employment as a referee.

Availability of exemplary, caring role models is important for all students, but may be especially critical to the retention and success of college students who do not have role models at home (Muola, Maithya & Mwinzi, 2011). Research on mentoring, (Munro, 2009; Allen & Eby, 2007; Brewerton, 2002; Gorzaka, 2012), indicate that it has a positive impact on the personal and professional development of young adults. Students value mostly academic advisors who are accessible, approachable, and helpful in providing guidance that connects their present academic experience with their future life plans. Literature shows that students at different years of study experience different and unique problems (Karcher, 2005). This could point out that although they are likely to perceive the need for help differently and at varying rate, it does not rule out the need for mentoring among doctoral students.

While mentoring doctoral students for knowledge transfer, a unique nexus between mentoring and friendship called frientoring is likely to develop. This is the mode advanced by Delamont, Atkinson and Parr (2005) as the most complex of the tripartite modes due to the asymmetrical nature of the mentor-mentee relationship. Although the lecturers are superior to the doctoral students in the mentoring dyad, mentoring graduate students requires friendly relationships between faculty and students. Borrowing from the social exchange theory, frientoring addresses the asymmetrical nature of mentoring relationships by promoting a collegial tier where both parties contribute as equals. According to CET (2013), frientoring presents the lecturer as *primus inter pares* allowing both parties to feel as though they are giving themselves and receiving intellectual and emotional reinforcement simultaneously. It presents a safe platform where the doctoral student receives guidance and wisdom from the lecturer while giving respect and a modicum of reverence to the interactions in turn. In a nutshell, the

frientoring mode ensures that the doctoral student's voice is heard throughout the mentoring relationship to the final product.

Mentoring in higher education in Kenya has been reflected in all the areas of university growth: universities, students, and programmes. Considering the accelerating expansion and growth of both public and private universities in Kenya, more attention should be accorded to the knowledge transfer at the doctoral level. This is especially so considering that other than being a terminal degree, it is also the requirement for someone to become a lecturer at the university level (CUE, 2013). This, coupled with the attention that mentoring is receiving throughout the world, sustain the backdrop upon which this study sought to explore mentoring doctoral students and knowledge transfer in higher education in Kenya.

1.1.3 Knowledge Creation and Transfer in Higher Education.

Knowledge transfer therefore remains the most fundamental function of any university that wishes to spur development. When knowledge is created and not transferred, then it serves no purpose. Theoretical knowledge has been described by Nicolae and Vitelar (2013) as one of the main issues in any university's mission statement. Clever individuals who cannot pass the knowledge that they have, are not good teachers and they have no business being in the knowledge industry. Universities are no longer ivory tower institutions but are partners in human development by sharing knowledge generated to other partners. In the academic environment, knowledge transfer is generated primarily from the asymmetric distribution of knowledge and the highly diverse organizational knowledge field. Bratianu (2010) posits that in a field as multilayered as the university, knowledge level is higher towards the oldest layer of faculty staff due to the almost natural asymmetry. This observation implies that knowledge transfer in the university is characterized by knowledge flowing from a higher level towards a lower level of

knowledge and understanding. Doctoral students are at a lower level compared to their lecturers hence this study advocates that mentoring them, on the backdrop of social exchange theory, can sustain knowledge transfer in the higher education setting.

Over the last four decades, Greenaway and Haynes (2003) observe that Higher Education in the United Kingdom (UK) has changed from elite to mass education. They attribute this change to the expanding student numbers from 400,000 in the 1960s to 2,000,000 at the turn of the century. Current reports indicate that a third of the population now attend university compared to a sixteenth during the early 1960s (Blanden & Machin, 2004). Again, Lewis (2002) reports that between the academic years 1988/9 and 1993/4 student numbers increased by 54%. Despite this positive growth in access to higher education, it has been argued that the pedagogical structure of university in the UK remains the same. This is in spite the change in the student population and increasing numbers of non-traditional students whose needs are vastly different from previous generations of students (Hall & Burns, 2009). Among these nontraditional students are the doctoral students. In order to deal with such an expansion many universities in the UK have increased the level of support that is available to the incoming student. For example, intentionally designed mentor-mentee pairing, curricular to facilitate critical discussions of professionals, networks to establish mentoring programmes and staged orientations are among the key supports given. This study was advanced on mentoring and knowledge transfer in higher education and was hinged on social exchange theory to bridge the gap between meeting the growing demand and quality.

The Higher Education Funding Council for England (HEFCE) has recognized the importance of knowledge transfer and called for the establishment of knowledge transfer centres at HEIs (Ganah, Pye & Hall, 2008). In response to this call, knowledge transfer centres have

been established to act as channels for transferring knowledge between these institutions and enterprises and organizations. This point to the significant role of knowledge transfer as an impetus for the vision of HEFCE: within 2005-2015, the higher education sector in England was recognized as a major contributor to society's efforts to achieve sustainability. According to HEFCE (2005), sustainability is achieved through the skills and knowledge that university graduates learn and put into practice, and through its own strategies and operations. With the increased expansion of higher education, doctoral students are on the increase to graduate and fill the lecturer vacancies created. It is due to this that this study sought to investigate mentoring doctoral students for knowledge transfer in higher education.

Australian government announced a range of reforms to significantly increase higher education participation and graduation attainment rates over the coming years (Pearce, 2012). With increased expansion, the questions rest on increased demand for qualified individuals to serve as lecturers, quality in knowledge transfer and eventual relevance in the workforce. Lecturers are required to have a minimum qualification of doctorate in order to sustain quality and smooth knowledge transfer in higher education, especially for postgraduate courses. This however is not the case as Quinn, Muldoon and Hollingworth (2002) report after closely monitoring retention and graduation rates and other indicators of quality of university. They posit that these problems are frequently associated with insufficiently prepared students. Insufficiency has everything to do with who prepared the students. Mentor activities such as research supervision and teamwork of doctoral students aid in ensuring better preparation and hence quality attainment in higher education beyond the lecture hall. This study posited that exposing doctoral students to activities such as co-teaching, co-presentation and co-authorship during conferences can ensure a cyclic process of knowledge transfer in higher education. This is based

on the premise that lecturers will be better placed to impart implicit knowledge and soft skills required by the labour market if they themselves received the same.

Kenya Vision 2030, the nation's development blueprint for 2008 to 2030 underscores the pivotal role of universities in taking the country's development agenda to the next level (National Economic and Social Council of Kenya [NESC], 2007). The NESC elaborates that Vision 2030 aims at making Kenya a newly industrializing, middle income country providing high quality life for all its citizens by the year 2030. The role of the universities in fostering the realization of Kenya Vision 2030 cannot be underestimated. The government also aims to increase the enrollment in schools to 95% as well as the transition rates to technical colleges and higher education to eight percent (Republic of Kenya [RoK], 2011). In addition, the rate of students joining universities should expand from 4.6% to 20% by 2030. This translates into an accelerated need for qualified lecturers to meet the increasing student population at the university level. But how best are these lecturers prepared during their doctoral studies for the task ahead? This question drove the rationale for this study to be carried out.

Although the goals of the mentoring may differ across both settings and nature of relationships, Garvey and Alred (2003) contend that nearly all mentorships involve the acquisition and transfer of knowledge. However, it is important to note that universities look up to the doctoral students to serve as lecturers upon completion. In this regard, the university is a consumer of the knowledge. Higher education generates and supplies knowledge to other industries while utilizing the same knowledge as well. This is the impetus why a study on mentoring doctoral students for knowledge transfer in higher education in Kenya was carried out.

Researchers in higher education have linked mentoring to career advancement (Higgins 2000; 2001), increased self-confidence (De Vries, 2005) and personal satisfaction and growth

(Ehrich, Hansford & Tennent, 2004). This implies that both mentors and mentees benefit from the mentoring relationship. Mentors describe reaping extrinsic rewards such as accelerated research productivity, greater networking and enhanced professional recognition when mentees perform well (Johnson, 2007). For institutions, Payne and Huffman (2005) assert that the benefits lie in increased retention and greater organizational commitment while Gardiner (2005) argues that for educational institutions, there is also an increased research income and publication rate. It is worth noting that career advancement, self-confidence and personal satisfaction and growth are all desirable ingredients for any professional. Doctoral students, though at the peak of their studies, cannot afford to be left out of this bracket hence the need to offer them mentoring for their next professional assignment.

1.1.4 Policy Framework on Mentoring Doctoral Students for Knowledge Transfer

Mentoring has been described by Budge (2006) as having a standing tradition in higher education. Traditionally, a professor with notable achievements in a given discipline may seek out younger colleagues or students to nurture their development. The nurturing may present itself in form of research assistantship; writing part of an article or book jointly; undertaking a particular research or co-presentation at a conference. In the process, meetings, discussions, information about resources and finance, consultations, extension of skills in research and writing and opportunities to attend conferences are shared. Dietz, Jansen and Wadee (2006) pointed out that the mission of mentoring in higher education dictates that the lecturer plays specific roles and exhibits certain behaviours. In order to make this expectation a reality, several countries have formulated policy framework to guide mentoring doctoral students for knowledge transfer in higher education.

The Declaration of the 2009 United Nations Educational, Scientific and Cultural Organization (UNESCO) World Higher Education Conference calls for partnerships and concerted action at national, regional and international levels to assure the quality and sustainability of higher education systems worldwide. Special emphasis is directed to the Sub-Saharan Africa, Small Island Developing States (SIDs) and other Least Developed Countries (LDCs). The Prague Declaration (2009) stressed the role of higher education in solving the financial crisis, and committed to enhancing global collaboration, partnership and presence beyond Europe as a priority. It was hoped that the commitment would ensure a greater number of universities with diverse missions, to ensure strategic presence and promote a more international outlook among students and staff alike.

On the other hand, the Association of African Universities (AAU) Declaration on the African University in the Third Millennium (2001) called for the revitalization of the African University. The declaration also called for a renewed sense of urgency in acknowledging the crucial role it plays in solving the several problems facing the African continent. The declaration urges African universities to give priority to effective and positive participation in the global creation, exchange and application of knowledge. African governments are also urged to continue to assume the prime responsibility for sustaining their universities, in partnership with other stakeholders because of the pivotal role of universities in national development.

The standards set by the Zimbabwe Council for Higher Education (ZIMCHE) for teaching staff lecturing and supervising degree programmes requires that their highest earned academic qualification be at least one level above the exit level of the programmes they are delivering (Garwe, 2015). This translates to a minimum of an appropriate Masters Degree for undergraduate programmes and doctoral degree for Master's and professors for doctoral

programmes. However, studies done in Zimbabwe reported that the proportion of academics holding doctoral qualifications ranged from 3% to 12.5% depending on university (MoHTE, 2010). Therefore one of the major roles of doctoral education in Zimbabwe is to produce lecturers qualified at the highest level who would then assist in developing more doctoral graduates resulting in the multiplier or ripple effect.

In Kenya, the Ministry of Education is the main agent in policy formulation, implementation, evaluation and regulation of the university system. According to the Commission for University Education [CUE] (2014), the Commission was established by an Act of Parliament, the Universities Act, No. 42 of 2012. The former Commission for Higher Education was established under Universities Act Cap 210B of 1985. The Commission was established to address the need to regulate, coordinate and assure quality in university education as a result of growth and expansion of the university subsector in Kenya. The Commission forms a corporate body to make better provisions for the advancement of quality university education in the country. Following the tremendous growth and expansion of university education in Kenya, a model was developed to estimate the number of additional PhDs required by universities in order to meet the stated gross enrolment rate (GER) of 10% (approximately 600,000 students) by 2022 (RoK, 2012). Currently, with approximately 3,000 faculty members in all universities, a desired student-faculty ratio of 40; and an average of five years to attain a PhD (from Bachelors), universities would collectively need to graduate an average of 2,400 PhDs per year for five years.

When it comes to supervision, CUE (2014) stipulates that any academic staff should be assigned students to supervise on thesis or dissertation based on a combination of their teaching load, administrative duties, supervision experience and capacity. The maximum number of

students an academic staff should supervise within any given academic year should be: 5 and 3 for Masters and Doctoral programmes respectively. The commission further elaborates that each lecturer should have a workload of 40 hours in a week. The workload should entail teaching, tutorials supervision of academic work and research. Despite availability of these guidelines, the social outcry over the deteriorating quality of university education in Kenya is wanting. This is why this study sought to investigate mentoring doctoral students for knowledge transfer in order to fill the looming danger.

The growing demand for university education in Kenya has triggered the establishment of many institutions and alternative modes of delivery, some with questionable quality (Some, 2015). Furthermore, there have been perceptions by the public that the development of university education institutions has been carried out in a haphazard manner thus leading to questionable quality, relevance and regional equity (Wamugunda, 2015). This explains why CUE (2013) points out that the greatest challenge for it is to ensure that the rapid expansion in university education does not compromise the quality of education and training in Kenya.

1.2 Statement of the Problem

University education in Kenya, as posited by Gudo, Oliel and Oanda (2011), has experienced rapid expansion in the last five years. According to CUE (2013), the number of universities in Kenya rose from six public universities to twenty two and from fifteen to thirty one private universities in 2013. Overall, the commission reports that Kenya has fifty three universities with nine constituent colleges for public and five of private universities. Wesangula (2014) asserts that Kenya's university student population shot up from 140,000 in 2010 to 218,832 in 2013, representing an incredible 56% increase. CUE statistics show that university teaching staff increased by 8% from 4,800 in 2010 to 5,189 in 2013. The statistics also show that

student enrollment has had effects on the already stretched teaching workforce thus affecting the quality of higher education in the country.

According to Humburg et al. (2013) Universities are charged with a special role of bridging the gap between the worlds of education and work. A doctoral course enables doctoral students to acquire the much desired, knowledge, skills and values needed to be successful lecturers in their specialized discipline through knowledge transfer. For knowledge transfer to occur, doctoral students need a nuanced understanding of the norms and expectations in their discipline. This is why it is important that there is adequate mentoring of the students. Parsonson (2011) posits that mentoring is one corollary of lecturers' direct involvement in the professional advancement of doctoral students. This means that lecturers have a critical role as mentors in initiating doctoral students into research, writing papers, conferencing, co-teaching, reviewing papers, grant writing and co-publishing for knowledge transfer.

However, the mentoring journey can be bumpy if the role of mentoring and its motive are unclear. Social concerns include poor mentoring as a result of lecturers 'moonlighting' looking for more money; lack of training on mentoring, and one lecturer mentors over 10 students which goes against quality standards (CUE, 2014). Studies show that majority of mentors do not receive training on how to supervise doctoral dissertations (Johnson & Huwe, 2002; Mudhovozi, Manganye, & Mashamba, 2013); there is a lack of mutual understanding of various mentoring aspects (Nakanjako et al., 2014); and that most doctoral students fail to complete their studies within the stipulated time (Amimo, 2012). Besides, studies by Mudhovozi, et al, Nakanjako et al, and Amimo focused on mentor's views, health sciences and benefits of mentoring respectively. Basing on these empirical evidences, it was established that there was a knowledge gap that needed to be filled. This is the impetus on which a comparative study of a private and a public

University hatched to explore mentoring doctoral students for knowledge transfer in higher education in Kenya.

1.3 Research Questions

This study sought to answer the following research questions:

i. Which forms of mentoring are given to doctoral students for knowledge transfer in selected universities in Kenya?

ii. How is mentoring doctoral students for knowledge transfer done at selected private and public universities in Kenya?

iii. Which factors affect mentoring doctoral students for knowledge transfer at selected private and public universities in Kenya?

iv. What are the perceptions of doctoral students towards mentoring for knowledge transfer in selected private and public universities in Kenya?

1.4 Research Hypotheses

$H_1$1: There is a significant mean difference in perception score toward mentoring when doctoral students are categorized by sex.

$H_1$2: There is a significant mean difference in perception score toward mentoring when doctoral students are categorized by year of study.

$H_1$3: There is a significant mean difference in perception score toward mentoring when doctoral students are categorized by age.

$H_1$4: There is a significant mean difference in perception score toward mentoring when doctoral students are categorized by type of university.

H_15: There is a significant mean difference in perception score toward mentoring when doctoral students are categorized by area of specialization

1.5 Significance of the Study

This study sought to provide useful insights on how the existing gap of mentoring doctoral students for knowledge transfer in higher education can be filled to ensure quality higher education in Kenya. Some of the ways in which the study is of significance to the theory and practice of education are as discussed below.

The study responded to calls for further research examining the role of social exchanges in organizational research (Song *et al.*, 2009), and in different contexts/cultures (Cropanzano & Mitchell, 2005; Shore *et al.*, 2009). Kenya has a culture that differentiates it from other countries such as the United States where most research on SET has been conducted (Farh, Hackett, Liang, 2007)). The aim of this study was thus to investigate if the social exchange theory and the norm of reciprocity function within a Kenyan higher education corroborate what has been reported in other studies.

The study was envisioned as having potential to add knowledge to the area of educational administration in general and mentoring in particular. By exploring how mentoring doctoral students for knowledge transfer in higher education is done and the accrued benefits, the study findings will go a long way in informing and forming a pedestal on which mentoring as an administrative tool can be anchored. This will in turn aid in increasing effectiveness and efficiency in training doctoral students and the overall knowledge transfer in higher education.

It is also envisaged that the recommendations from the study will help lecturers to improve mentoring relationships and give suggestions on how to improve them in the Kenyan context. This will be achieved through the findings yielded from both mentors and mentees. By

including doctoral students as participants in the study, the study gained deeper insights into the actual experiences alongside the aspirations for the same.

The afore-mentioned observations, therefore, inspired this study which sought to establish at local level, particularly Kenyan situation mentoring doctoral students for knowledge transfer in higher education. It is hoped that findings from the study will go a long way in shaping policy in the selected universities in as far as mentoring doctoral students is concerned. As a comparative study, it is hoped that any possible contrasts between the public and private universities selected for this study will be useful to other universities in Kenya. As a precursor to this, the study will make a policy brief to the relevant authorities in the selected universities.

1.6 Scope and Delimitation of the Study

Mentoring is a broad concept as already demonstrated in the background to the study. Consequently, mentoring as a process leads to a myriad of functions as advanced by Mullen (2006), such as professional development, protection, psychological support, improved academic performance, increased productivity and expanded network. However, this study addressed itself to mentoring for knowledge transfer in higher education on the premise that in the knowledge society, higher education is one of the key drivers of development.

The study was limited to doctoral students on the basis that besides being a terminal course, the doctoral programme is qualitatively different form the undergraduate one. This is especially so in tandem with Schlosser et al. (2003) who advance that mentors in the former are likely to be more interested. The relationships are longer, doctoral mentees come to the mentoring relationships with more complex and sophisticated thinking abilities, and will become colleagues with their mentors after successful completion and graduation.

The University of Nairobi (UoN), by its history and position, finds itself with the inherent role of providing leadership in the domain of higher education in Kenya (UoN, 2008). However, this role has to be fulfilled in the context of changing paradigms such as increased student population, expanded academic programmes, growth in campuses and accelerated competition in the ambience of higher education. The University of Nairobi has the highest number of professors among all the public universities (even private), in Kenya (Wesangula, 2014). This notwithstanding, PhD graduation rates in the university remain relatively low. For instance, CHE (2010) reveal that in 2010, only 26 PhDs were awarded out of 4,473 students who were awarded degrees and diplomas. Further still, only 13 PhDs were awarded out of a cohort of 3,947 graduands in 2009 at the UoN. Taking into account that UoN, besides being the oldest in the country, possibly has some of the advanced facilities, it is imperative to carry out an investigation on mentoring doctoral students for knowledge transfer within the institution. Bearing in mind that UoN is ranked the best in the country and among the best in the continent and the rest of the world, this study will yield some useful insights that other universities could embrace in order to improve their practice in the provision of higher education.

According to CUE (2013), The Catholic University of Eastern Africa has the highest number of doctoral programmes when compared to the rest of the private universities in Kenya. The CUE statistics show that CUEA is leading at 14 doctoral programmes followed by USIU while Daystar and Methodist Universities are third with 2 doctoral programmes each. Therefore, this study found it befitting to explore mentoring doctoral students for knowledge transfer in CUEA.

1.7 Theoretical Framework

This study was premised on the Social Exchange Theory (SET). The social exchange theory is said to have evolved from Thorndike's (1935) work on the development of reinforcement theory and Mill's (1959) marginal utility theory. However, the contemporary version of SET has been derived from the work of sociologists Homans (1950, 1961), Blau (1964), and Emerson (1976). The theory's fundamental principle is that human beings in social situations choose behaviours that maximize their likelihood of attaining self-interests.

Whereas, Homans (1961) explained social behaviour and the forms of social organization produced by social interaction by building upon reinforcement principles derived from experimental behavioural analysis, Blau (1964) is reported to have decidedly taken a more economic and utilitarian view of behaviour (Majiros, 2013). According to Farganis (2011), utilitarian is forward looking while reinforcement is backward looking. Under utilitarian, actors are viewed as acting in terms of anticipated rewards that maximize benefit while under reinforcement, actors value what has been rewarded to them in the past. This study adopted the reciprocal exchange in which actors individually perform beneficial acts for another such as giving advice, guidance, without knowing whether or when the other will reciprocate. Aselage and Eisenberger (2003) opine that the exchanged resources can be impersonal in form of financial or socio-emotional such as care, respect and loyalty.

Within the social exchange theory, interpersonal interaction is a process (Jinyang, 2015),. In the process, SET holds that various parties conduct activities and exchange valuable resources with each other. The core of the theory is the principle of reciprocity to which the interpersonal relationship adheres. Rewards for the exchange not only include material rewards, but also psychological rewards, such as support, trust, self-esteem and prestige. In mentoring doctoral

students, lecturers are the main subjects as they implement virtually all knowledge sharing activities. The knowledge sharing activities in the mentoring relationship is the knowledge exchange between the lecturers and the doctoral students. In the perspective of social exchange theory, the knowledge sharing in the mentoring relationship is a personal behaviour manifesting itself as a kind of social exchange between the parties involved.

One of the key assumptions of SET is that individuals are generally rational and engage in calculations of costs and benefits in social exchanges thereby existing as both rational actors and reactors in their social exchanges (Cropanzano and Mitchell, 2005). Additionally, SET builds on the assumption that in any interaction, people are rationally seeking how to maximize the profits or benefits they gain. This assumption contends that social exchanges between two or more parties entail effort by participants to fulfill their basic needs.

Another key assumption of SET is that individuals are goal oriented in a freely competitive social system (Law, 2009). In this assumption, this study appreciates that universities are social systems that are very competitive by their very nature. The same could be said of mentoring doctoral students on teaching within the Kenyan universities where this study approached mentors as possessing more resources and working in a social set up to advance the academic and professional goals of the mentee.

Social Exchange Theory assumes that social exchange is based on a justice principle which holds that in each exchange, there should be a norm of fairness governing behaviour (Sabatelli, 2003). In Sell's (2008) view, the social exchange must be viewed as fair when compared in the context of a wider network or to third and fourth parties. This notion of distributive justice goes beyond the equity between the two principals' contribution. It involves each person comparing their reward to that of others who have dealt with this individual and

what they received for the same or a similar contribution. This assumption was important in guiding this study to examine the benefits of the mentoring relationship to both the mentors and mentees.

Among the tenets of SET, Wikhamn and Hall (2012) advance that relationship in social exchange is based on reciprocation. That is, each individual in the relationship will provide benefits to the other so long as the exchange is equitable and the units of exchange are important to the respective parties. An exchange between two individuals must be seen as fair by both for the relation to continue, or at least to continue strongly. This argument points out that it is not only important to respond fairly, but also with an item (not necessarily material) deemed to be important by the other person.

The Social Exchange Theory, according to Song, Tsui, and Law (2009), assumes that individuals will seek to maximize their gains and minimize their costs in the exchange relation. It is important to understand that the notion of costs does not relate exclusively to financial issues. Rather, within the lens of SET, costs can be incurred through the time and energy invested in a relationship besides any other non-monetary immaterial benefits accrued within the social exchange.

1.7.1 Strengths of the Social Exchange Theory.

The social exchange theory acknowledges that costs and benefits in the social exchange relationship does not relate exclusively to monetary values. Instead, as Farganis (2011) advances, the theory looks at time, suggestions and energy as some of the costs and rewards respectively. Considering that mentoring relationships aim at making doctoral students more competent and conversant with what is expected of them in higher education has a cost and benefit factor, this study deemed this as one of the theories strengths.

According to Shore, Coyle-Shapiro, Chen, and Tetrick (2009), an appropriate gold standard for knowledge transfer is provided by SET through the emphasis the theory puts on reciprocity of the exchange process. This emphasis brings to the forefront the reciprocate nature of mentoring. Although fully competent, the lecturer mentoring doctoral students is more likely to also gain many more and unique benefits from the process. This relationship is likely to ensure knowledge transfer between the mentor and the mentee and vice versa in higher education.

The social exchange theory recognizes that exchange relationships should be governed by both normative and cognitive exchange orientations that delineate acceptable and appropriate behaviour, according to Sabatelli (2003). These norms refer to the broader consensus that exists within a culture about how exchange relationships should be structured. On the other hand, cognitive orientations come in the form of beliefs, values, and relationship orientations that an individual associates with. Looking at mentoring doctoral students within this perspective, SET is in consonance with the conventions of knowledge transfer in higher education. This consonance propagates both the normative and cognitive orientations within the relationships between the mentors and mentees in higher education.

1.7.2 Weaknesses of the Social Exchange Theory.

Some of the critics of SET, Stolte, Fine and Cook (2001), argue that the theory simply focuses on the importance of trust, loyalty, and mutual commitment according to the rules and norms of exchange between the mentor and the mentee to manage the mentoring process. They point out that in so doing, the theory ignores the importance of structural characteristics of the mentoring relationship. In order to address this gap, this study sought to examine the forms of mentoring or structural relationships available for the doctoral students for knowledge transfer.

The relative inattention to cultural context and cross-cultural variations in the norms and rules governing and regulating social exchange is one of the limitations of SET (Cook, 2000). Taking this into account, the researcher introduced cultural context into the study. This was achieved by carrying out a comparative study on two universities with distinct contextual characteristics: one public university and one private university. The study assumed that making a comparison of the findings from these two diverse contexts would address this limitation in SET amicably.

1.7.3 Relevance of the Social Exchange Theory to the Study.

The Social Exchange Theory's fundamental component of mentoring relationships is reciprocity. According to Shore, Toyokawa, and Anderson (2008):

> Reciprocity in the mentor-mentee relationship exists whenever the mentor desires, expects, requires, or accepts tangible or interpersonal benefits from the mentee -- beyond those financial benefits ordinarily required to compensate for the provision of professional services --in exchange for the benefits that mentor imparts to the mentee as a necessary part of mentoring" (Shore et al., p. 17).

The authors also opine that there are some situations in mentoring relationship that affect the appropriateness of an expectation of reciprocity, especially if mentoring relationships were viewed within context-specific constructs. Specifically, there is a basic assumption about reciprocity where the appropriateness of the expectation in any mentoring relationship varies as a function of the context. This study included context factors since the ethics of reciprocity are determined by the contextual factors such as type of university, student characteristics, and university infrastructure among others.

The context needs to be examined when discussing mentoring doctoral students for knowledge transfer in higher education. SET provides a suitable framework for higher education context including components such as type of university, academic collaboration, university facilities, student population, and student characteristics. Using the SET lens to explore mentoring doctoral students raises the socialization aspect as one aspect in which mentoring can contribute toward knowledge transfer in higher education. Within the SET framework, Marsick and Watkins (2001), assert that social exchange takes into account answering how and what questions. This study found SET framework suitable for exploring the research questions: How are doctoral students mentored for knowledge transfer in higher education? How does mentoring doctoral students compare in different contexts? What do we need to do to strengthen mentoring doctoral students for knowledge transfer? These questions build a foundation on which this study on mentoring doctoral students for knowledge transfer in higher education in Kenya was founded.

In mentoring doctoral students, both mentor and mentee's participatory behaviour are sometimes based on the perceived benefits as well as costs in the relationship. This is true especially in cases where the doctoral student co-presents with lecturer(s) papers at conferences. Costs of co-authorship may entail time invested in the reading and writing among others. However, benefits will be enshrined in the fact that both authors reap by having their work published thus achieving an academic mileage. In this assumption, SET reflects the perspective that mentoring doctoral students in publication and paper presentations may summon elements of decision making by both parties independently while emphasizing that interactions between people are an exchange of goods, material and non-material.

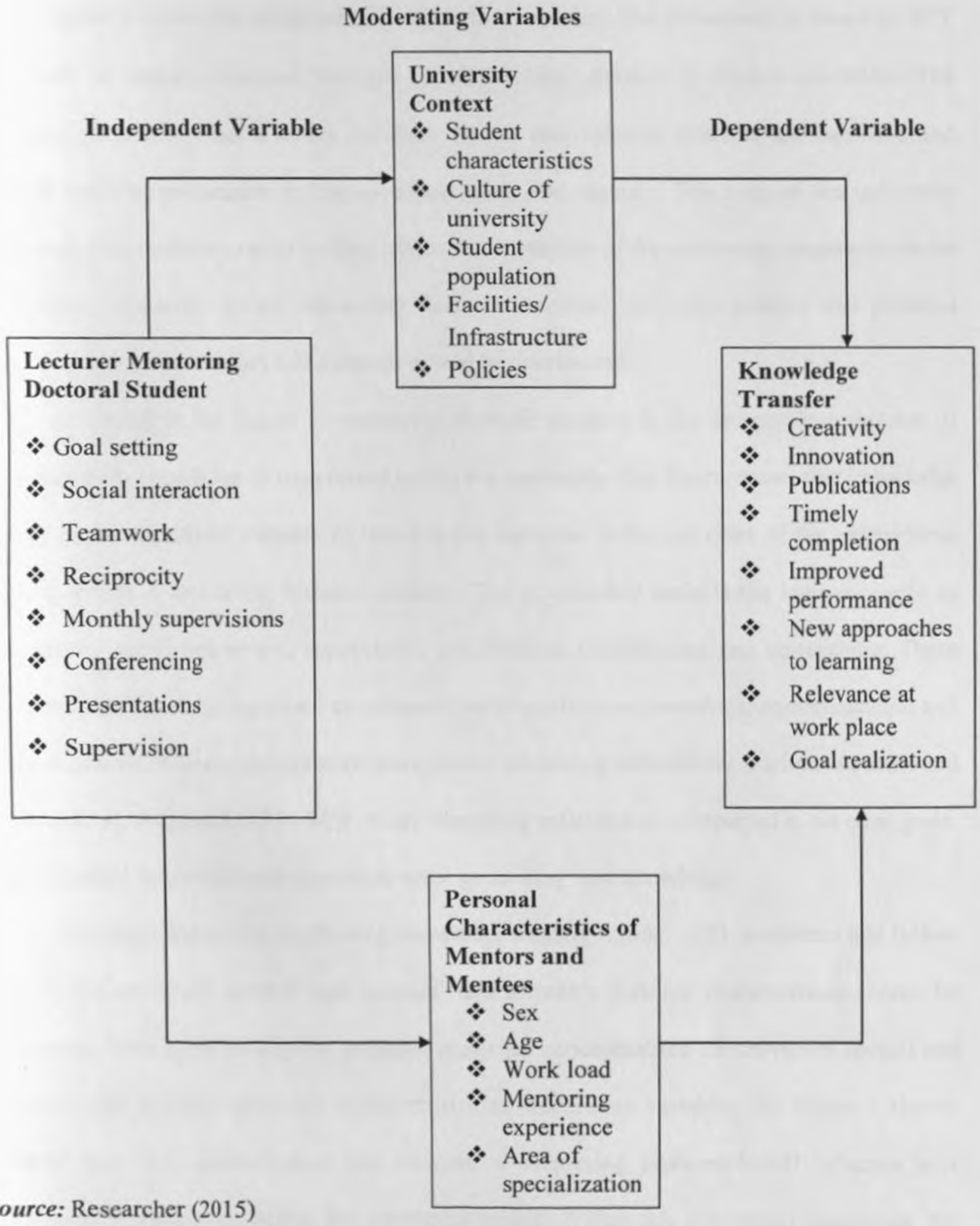
Notably, some proponents of SET, Stolte *et al.* (2001) perceive the theory as suitable for allowing the examination of large-scale social issues by means of the investigation of small-scale social situations. That is, seeing the big through the small. This perception makes the theory applicable for sociological miniature studies aiming at making generalizations in the end. Due to this, this study deemed the theory applicable as it guided the study in examining mentoring doctoral students for knowledge transfer as a sociological phenomenon in higher education. The study was able to infer the findings to a larger population after studying a small section through the sample.

Despite the fact that the study of market exchange is a reserve of economics, other social scientists have over time shown interest in the social interactional components of the exchange process (Sell, 2008). This study was on mentoring of doctoral students for knowledge transfer in higher education. Since education is one of the major social sciences, the study found the adaption of SET as an appropriate guide.

The bureaucratic process that characterizes universities, according to Majiros (2013), lends itself to placing technical job expertise into the category of commodity. Using the SET lens, formal mentoring is seen as a way of fostering career aspirations of doctoral students. Application of mentoring is reinforced by the vertical structure of the bureaucratic nature of universities in which mostly explicit or codified knowledge is transferred. In this way, as postulated by Martinez-Brawley and Zorita (2007), SET advances that knowledge, whether explicit or tacit, is bartered, traded, and exchanged between the mentor and the mentee during mentoring. This makes the theory practical in studying mentoring doctoral students for knowledge transfer in higher education.

1.8 Conceptual Framework

After conducting a related literature review on related theories and empirical studies, the researcher developed a conceptual framework which guided the study. The framework represents the researcher's perception of how the major variables in the theoretical framework were related in the study.



Source: Researcher (2015)

Figure 1: Factors affecting Knowledge Transfer in Higher Education

Figure 1 shows the relationship between the variables. The framework is based on SET framework to mentor doctoral students for knowledge transfer in higher education. The mentoring programme has a direct influence on the way doctoral students are mentored and eventual knowledge transfer in higher education in the country. The role of the university lecturers in this model is crucial as they are the implementers of the mentoring programme in the universities. However, during mentoring doctoral students, university context and personal characteristics of the mentors and mentees cannot be overlooked.

As shown in the figure 1, mentoring doctoral students is the independent variable. It influences how knowledge is transferred within the university. The figure shows that knowledge transfer is the dependent variable in that it is the outcome of the activities of the independent variable, which is, mentoring doctoral students. The independent variable has indicators such as goal setting, social interaction, supervision, consultation, conferencing and co-teaching. These indicators entail activities such as: co-presentation in conferences, meetings, communication and giving feedback. These activities take place during mentoring between the doctoral students and the lecturer(s). As postulated by SET, every mentoring relationship is expected to set clear goals, promote social interaction and teamwork while generating new knowledge.

Although, mentoring is affecting knowledge transfer directly, SET postulates that factors such as the university context and mentors' and mentee's personal characteristics cannot be overlooked. This explains why the proposed study has conceptualized the university context and lecturer's and students' personal characteristics as moderating variables. As Figure 1 shows, mentors' age, sex, specialization and duration of mentoring experience will influence how knowledge is transferred during the mentoring period. Within this conceptual framework, the mentee's role in the mentoring relationship has not been overlooked either. From the framework,

the type of doctoral students is among other contextual factors that will influence how knowledge is transferred during mentoring. The student is particularly important bearing in mind what Mudhovozi et al. (2013) reported that majority of mentees are not proactive, lack knowledge, lack English expressive skills, poorly referenced their work and submitted unedited work besides using outdated sources. This is why this study explored personal characteristics and the university context as moderating variables in order to establish their relationship with the mentoring phenomenon among the doctoral students.

Knowledge transfer is the outcome variable and is manifested through goal realization, reactivity, innovation, teamwork, improved completion rate, new approaches to learning and relevance at workplace and fostered career aspirations of the doctoral students. Since universities are supposed to generate, disseminate and utilize knowledge, knowledge transfer is crucial in higher education. In order to avert the looming public decry over quality in some of the mushrooming universities, mentoring doctoral students is imperative. However, what influences knowledge transfer was the core business of this study: Mentoring doctoral students. The study set out to investigate how mentoring doctoral students can play a role in the level of knowledge transfer in higher education.

1.9 Operational Definitions of Key Terms

Chairman is the person holding the administrative position in charge of a department in either of the sampled universities for this study.

Dean refers to an individual in holding an administrative position in charge of a faculty or school in either of the sampled universities in this study.

Doctoral Student is a learner pursuing a PhD programme at either of the selected universities.

Faculty entails an administrative unit of the same academic discipline headed by a dean in either of the sampled universities in this study.

Formal Mentoring include an organized mentoring relationship in which an organization intervenes to create and support relationships.

Higher Education in the context of this study is education pursued at the university level in either a public or private university.

Informal Mentoring occurs when the organization, if it is aware of mentoring relationships at all, adopts a laissez-faire attitude, encouraging people to develop spontaneous relationships, but providing no direction or overt support.

Knowledge encompasses a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms

Knowledge Management is a deliberate and systematic coordination of an organization's people, technology, processes, and organizational structure in order to add value through reuse and innovation. This coordination is achieved through creating, sharing, and applying knowledge

as well as through feeding the valuable lessons learned and best practices into corporate memory in order to foster continued organizational learning.

Knowledge Transfer describes the ways in which lecturers use their knowledge, ideas, skills, expertise and assets to benefit doctoral students' academic and professional life.

Mentee is a doctoral student attached to a lecturer in order to get support and guidance towards his/her academic and/or professional growth.

Mentor refers to a lecturer who is attached to a doctoral student for the purposes of providing support and guidance towards the academic and professional growth of the latter.

Mentoring entails process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, it encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations, and supervision the doctoral student from admission until successful completion of the doctoral programme.

Moderating variable as used in this study refers to the university context and personal characteristics of the mentor and mentee.

Supervisor in the context of this study is a lecturer handling directly the doctoral student(s) in either of the sampled universities.

Supervision entails the academic guidance given to doctoral students by lecturers officially assigned to them as they work through their dissertations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents a review of theories and empirical studies related to the study. The chapter is divided into three sections. The first section presents a review of theories related to the study. The second section reviews empirical studies in the context of the study. A brief summary of the reviewed literature and knowledge gap forms the last sub section of the chapter.

2.2 Review of Theories in the Context of the Study

Before plunging into the review of empirical studies related to the study, it was important to situate the argument within a theoretical context. The study's aim was to examine mentoring doctoral students for knowledge transfer in higher education. This section examines two theories in the context of the study: andragogy theory and the stage theory.

2.2.1 Andragogy Theory.

The theory of andragogy was introduced in the United States by Malcolm Knowles in 1968 as an advancement of a theoretical model for adult learning developed earlier in Europe. Knowles recognized the fact that adults, who for the most part already know what things are, tend to look for meaning and deeper insight during their learning experience. Andragogy acknowledges the fact that adults have a different outlook and needs from children hence the need for a different approach in the former's learning process. It is argued that a cardinal principle of andragogy is that a mechanism must be provided for involving all the parties concerned in the educational enterprise in its planning. This implies that in the mentoring relationship, the mentor as well as the mentee must work together. St. Lair (2002) postulates that

such collaboration encapsulates the core values of andragogy in many ways while reinforcing the adults' self-direction within the same breadth.

It was in Europe that the term *andragogy* was first used to refer to some form of adult learning (Smith, 2002). The term *Andragogik* was first coined by a German grammar teacher, Alexander Kapp in 1833. Kapp used the term to describe the educational philosophy of Plato although the latter did not use the term himself. Malcolm Knowles, who is considered to be the central figure in US adult education during the latter half of the 20th century, learned of the term from a Yugoslavian adult educator and introduced it into American adult education literature in 1968 (Knowles, 1981). Knowles defined andragogy as the "art and science of helping adults learn" (p. 2). Adult education is grounded on the premise that adult learners are different from non-adults. In his theory of andragogy, Knowles identified six primary assumptions about adult learning: the need to know, learners' self-concept, role of learners' experiences, readiness to learn, orientation to learning, and motivation.

Adult learners need to know the reason why they need to learn before they make the first step to learn anything (Knowles, 1981). The theory of andragogy advances that the first question adults ask is how the new knowledge or skill would benefit them. For instance, one's grandmother would more willingly learn how to use a computer and e-mail if she is told that she can communicate with somebody half a globe away and even be able to receive digital pictures which she can print instantly. Additionally, the theory holds that it would be more difficult for adult learners to learn something when they do not understand why they have to learn it. It is a totally different case for young children who have to accept whatever the teacher presents for learning. Children normally do not ask how something is applicable in their lives before learning it.

Within the theory of andragogy, self-concept of adults revolves more around being responsible for their own decisions and for their own lives. Knowles (1981) posits that adults have a better self-direction which places them in a better position to choose where to go, what to know, when to start. In all mentoring relationships, this principle is central to the success of the engagement especially from the mentee's direction. Knowles adds that self-direction often pose a dilemma in teaching adults. How does one teach, which implies a certain authority, self-directing adults? Normally, adults agree to learn because they are aware that they need to know something. Just as in the mentoring relationship, the teacher (represented in this study by the mentor), is seen as one who has that knowledge or skill that the learner (represented in this study by the mentee) is in need of.

Importantly though, Knowles (1981) points out that adults sometimes feel a conflict between a dependency (on the teacher) and the deeper psychological need to be self-directing. In acknowledging this threat, the theory attributed the high dropout rate in most voluntary adult education. In an attempt to avert this, adult educators have worked at creating learning experiences that help adults to make the transition from dependent to self-directing learners. Mentoring is one of the several avenues through which adult learners can get meaningfully involved in their learning experience. This underscores the reason why, from the onset, the mentees are involved actively in the decisions such as who should mentor them. The same is true of doctoral students in areas such as the choice of area of knowledge specialization, research topic, study location and methodological issues.

Under andragogy, adults not only have much more experience than children but their experiences are also of a different quality (Atherton, 2005). Naturally, adults have more experience due to time. However, Knowles (1981) cautions that the quality of adults'

experiences is also different in that there are certain things which are uniquely adult specific. For instance, experiences such as working full-time and trying to make ends meet financially among others. Mentoring doctoral student needs to be cognizant of the fact that doctoral students have a qualitatively much wider set of experiences. As a result, the quantity and quality of experiences they bring are in themselves rich resources for learning and reflection within the mentoring relationship.

Adults become ready to learn those particular things that they need to know and they do so in order to cope effectively with their real-life situations (Knowles, 1981). In short, it is easier for people to learn when they are developmentally capable of it and feel the need to learn it. This is the reason why sex education is a hot topic in high school. Some andragogical theorists (Merrina, Caffarella and Baumgarlner, 2007) hold the view that the adult learners' perception of what they want to become, what they want to be able to achieve, and at what level they want to perform, is the starting point in building a model of competencies. The theory advances that in mentoring relationships, the mentees need to make an honest assessment of their current state before they can advance smoothly to the next step which is to formulate goals. In so doing, goal setting suffices as a key aspect of the mentoring relationship.

The orientation to learning is another key principle in the theory of andragogy. This assumption is very much related to that of readiness to learn although on a more general level. Adults are more life-centered in that they are "motivated to devote energy to learn something to the extent that they perceive that it will help them perform tasks or deal with problems that they confront in their life situations" (Knowles 1981, p. 59). Experience teaches adults what to expect from life and they are more willing to prepare for future needs. This resonates with the main subject of this study: mentoring doctoral students for knowledge transfer in higher education.

Mentoring thus becomes an experience that prepares the doctoral students for their future career positions. This is an outlook or orientation that is proper to adults.

The final assumption of Knowles' theory of andragogy is motivation. It has been posited by Knowles (1981) that adults are motivated to keep on growing, developing, and learning. This is true considering that since there is such a thing as adult education, it is evident enough that they have this desire to learn. However, Smith (2002) points out that it is imperative for every adult learner to participate fully in the learning process while paying close attention to the climate of mutuality and collaboration in the relationship. In essence therefore, within the *premia* of this study, the doctoral student should have an opportunity to exercise self-direction as this presents them with a sense of involvement in the knowledge transfer process.

This study presupposed that these assumptions reveal an epistemology that is heavily influenced by pragmatism and a little of interpretivism. The fact that experience and reason play a key role as sources of knowledge makes andragogy lean more towards pragmatism. On the other hand, there is also a tint of interpretivism in that each learner will have his or her own assumption of what reality is based on the uniqueness of each one's set of experiences. This mixture makes andragogy quite unique and informs one of the reasons why this study finds the theory appropriate for investigating mentoring doctoral students for knowledge transfer in higher education through the pragmatic mixed methods design. The impetus is that doctoral students, like other adults are mature enough to honestly see their achievements and possible areas of weakness.

2.2.2 Stage Theory.

The Stage theory, (ST), was advanced by Kram (1985) as a derivation from the study of 18 mentor–mentee pairs. Since the inception of mentoring theory, the concept of time has been

considered to be an important component of nearly all mentoring relationships. Within the ST, Kram (1983) acknowledges that although developmental relationships such as mentoring vary in length, they generally proceed through four predictable phases. Kram identifies these four overlapping phases in a mentoring relationship as comprising initiation, cultivation, separation, and redefinition.

The relationship gets started in the initiation phase during which the mentor and the protégé start learning each other's personal style and work habits. Kram (1983) suggested that during this initial stage lasts six months to one year. However, this suggestion for mentoring may on one hand not be practical in mentoring doctoral students. This is particularly so considering that the doctoral programme has a specified timeline within which it should be pursued. For example,

The second phase of mentoring according to the stage theory is cultivation during which the mentee learns from the mentor and advances his/her career. Kram (1985) suggests that this second stage may last for two to five years and calls for the mentor to promote the mentee through activities that can develop the latter's performance, potential as well as visibility. Chao (1997) opined that during this stage, while the mentee gains knowledge, the mentor accumulates loyalty and support from the mentee while gaining a sense of well-being from passing knowledge on to the next generation. This is in harmony with the role of mentoring doctoral students which aims at preparing the next generation of academicians within higher education for knowledge transfer. Owing to this, Scandura and Hamilton (2002) advance that this second phase in the stage theory is regarded as the level at which most benefits are realized by both parties. Perhaps this explains why Scandura (1998) observes that mentoring research focuses largely on this phase.

It is believed that as the mentee outgrows the relationship at cultivation phase and becomes more independent, the structure of the relation begins to change. According to Kram (1985) this signifies the separation phase. During the separation phase, a structural and/or psychological disconnection between the mentee and the mentor may be witnessed. Ragins and Scandura (1997) postulate that the separation phase may range from a period of six months to two years. Although the specified duration may seem long for a relationship between a doctoral student and their university mentor, engagement can extend beyond graduation. For example, continued networking, recommendation for jobs, and co-authorship are possible avenues to extend the separation period between the doctoral student and their mentor. Notwithstanding though, it is imperative to acknowledge that this engagement may not be as intense as the first two. This is due to factors such as geographical separation upon completion of doctoral studies (Eby & McManus, 2004). As a result, the previously vibrant mentoring relationship is likely to wane gradually especially if the doctoral student has successfully completed studies and moved on to other duties.

Finally, the redefinition phase is the last of the phases in the stage theory (Kram, 1985). This is particularly so in cases where the separation phase has been successful, implying that the mentoring relationship may no longer be needed. During the redefinition phase, a new relationship may be established. While acknowledging the posterity duty of mentoring doctoral students, it can be asserted that it is at this point that the doctoral student (now a newly graduated PhD holder) is expected to establish new relationships with learners under their care. According to Scandura (1998), they do so by giving mutual support and continued informal contact with their students. This ensures continuity of the academic practices within higher education and in

essence guarantees knowledge transfer. The process is expected to repeat itself in a cyclic manner if quality is to be ensured in higher education.

Although Johnson and Ridley (2004) support the stage theory, they also caution that these phases should be interpreted as a guide only, not as a literal or chronological manifestation of all graduate student-faculty mentorships. Moreover, Bouquillon, Sosik, and Lee (2005) also give credence to Kram's theoretical framework and observe that empirical research has yet to "fully unveil how mentoring phases influence the dynamics and functions of mentoring relationships" (p. 24). This study was on mentoring doctoral students for knowledge transfer in higher education in Kenya. It is hoped that the study contributes towards the advancement of the ST by examining the specific dynamics of the mentoring relationship from the perspectives of both the lecturer (mentor) and the doctoral student (mentee). In so doing, the study provides useful insights to future researchers on how Kram's stages of mentoring can typically apply to different situations by means of a comparative study. This notwithstanding, the study established that ST overemphasizes the importance of the stages of mentoring in the model. Since the study was not interested in the mentoring phases from a developmental perspective, the stage theory is not very appropriate as its theoretical framework but helped in the development of a new mentoring theory: Time Bound Mentoring Theory.

2.3 Review of Empirical Studies in the Context of the Study

This part presents a review of empirical studies related to the study. The section has been thematized according to the research questions which guided the study.

2.3.1 Forms of Mentoring given to Doctoral Students for Knowledge Transfer.

Mentoring literature boasts about overwhelming benefits of mentoring. Using social constructivism theory, Hayes and Koro-Ljungberg (2011) explored dialogic exchanges and the negotiation of differences in the USA. The study sampled 10 female graduate students with qualitative research experience. Individual interviews were used alongside focus group discussions to collect data. Findings from the study indicated that there was need for mentoring that addressed psychosocial as well as career functions and mentoring relationships that supported the development of both mentor and mentee as scholars and researchers. By sampling only female graduate students, the study left out the male graduate students thus creating a knowledge gap as to whether both sexes have similar experiences in the mentoring relationship. Again the American study does not explicitly show how sampling was done. To fill this gap, gender as an intervening variable was included in the current study and both probability and non-probability sampling techniques employed. Again the earlier study was carried out in USA, a developed nation and focused only on female graduate students. Replicating a study targeting both male and female doctoral students in Kenya, a developing nation, was found to be imperative.

A qualitative review of literature was carried out to create a model for graduate student inclusion and success in the United States by Duranczyk, Franko, Osifuye, Barton & Higbee (2015). The reviewed literature showed that mentoring and advising are critical aspects of the graduate student experience, and can have a significant impact on the professional lives of future faculty and staff and a rippling effect throughout higher education and the global economy. This paper describes the process a new department undertook to create a graduate program that puts the inclusion and success of students first. In the earlier study, the focus was on advising doctoral

students. However, this seemed to have left out a huge part of mentoring. Again, the study was interested in the long run ripple effect throughout higher education and the global economy. This widened the scope of the study to global nature. However, the global scope may have made the study too broad for the effects to be determined strictly. Owing to this, a study with a more specific and focused target would be imperative. This is why this study was carried out with a focus on higher education only.

In South Australia, Darwin and Palmer (2010) investigated the benefits of mentoring circles for academics at the University of Adelide. They selected a sample of 20 academics – experienced and new faculty members – who met 8 times over a period of 6 months as part of a peer mentoring programme. The mentoring programme developed 3 mentoring circles with members drawn from a variety of disciplines for the purpose of the study. The results showed that two circles had successful outcomes while one was unsuccessful. The study focused on university lecturers only thus excluding students. However, doctoral students are important in ensuring the continuity of knowledge transfer as the future lecturers in higher education. This is why this study factored in the doctoral students as a way of filling this gap. Besides, the previous study used mentoring circles which were purposively constituted for the study. This study on the other hand, examined what was going on in practice at a public and a private university in Kenya.

A study seeking to address a gap in the literature on mentoring in academic setting was carried out by Wonka (2012) in Poland. The case study was on mentoring as a pedagogical tool to enhance student education in local community management. The study designed a mentoring programme for students of one of the Polish universities. A sample of 101 students was selected for the study and questionnaires were electronically distributed to them. Findings from the study

showed that most of the mentors were well prepared and willingly engaged in the mentoring process with a majority of the mentees indicating that mentoring did not contribute to their personal development. While the previous study was on mentoring as a pedagogical tool, the current one investigated mentoring as a tool for knowledge transfer in higher education

In order to explore dysfunctional mentorship among science and engineering masters' students, Yin-Nii and Hse (2013) carried out a phenomenology study in China. The study sampled ten male and six female students aged between 21-26 years and conducted 16 in-depth interviews within a one month timeframe. The results showed that professors and students engaged in frequent conflicts in the mentoring relationship and recommended that incase of conflict, the students needed to adjust their attitudes and behaviour accordingly to meet the expectations of their mentors. However, the study did not go further to explain how the adjustments could be made. In order to fill this knowledge gap, this study was fronted to elaborately explain how the students can adjust. Besides, the Chinese study targeted masters' students while the current one targeted doctoral students. This, coupled with the diverse geographical context, would aid in strengthening the findings of the previous study.

Mentoring is useful and powerful in understanding and addressing organizational culture and offering professional stimulation to both the mentor and the mentee. In West Africa, Chika and Nkechi (2011) investigated the management of students' mentoring in Nigerian Universities. The study was in response to educational stakeholders' complaints that many students who might have performed better while in the university did not unlock their potentials because of the crippled mentoring services in the system. The population of the study was 27 federal Nigerian universities from which a random sample of four federal Nigerian universities was selected. From each university, a stratified random sampling method was used to select 100 male and 100

female students and 30 male and 30 female academic staff to participate in the study. A total of 400 male and 400 female students and 120 male and 120 female academic staff participated in the study. The sole instrument used in gathering the data was the questionnaire. The major findings were that mentoring was low in the universities although 87% of students indicated willingness to be mentored but only 45% of academic staff were willing to mentor. Based on the findings, the study recommended that university management should structure and manage mentoring services for better productivity. Whereas Chika and Nkechi carried out their study in public universities, the current study made a comparison between a public and a private university. It was thought that through comparison, this study could give insights on similarities and differences in practice of mentoring within the two different contexts. Furthermore, one group could benefit by borrowing desirable ideas in practice of mentoring from the other hence a contribution towards improvement of mentoring as a practice in the realm of higher education at doctoral level can be enhanced.

As higher education evolves in expected ways, a new landscape demanding innovation and flexibility emerges. In order to highlight the current situation in Kenya with regard to adoption of the triple helix concept, Awuor (2013) carried out a desk research coupled with interviews. The study focused on significant players in the African knowledge transfer partnership (AKTP) model of linkage. Findings showed that some of the eligible projects were development of new products and improving efficiency. The conclusion posited that the triple helix approach based on ATKP model can have major impact on economic development of a country. This implied that Awuor's study had a very broad scope, that is, an entire nation, Kenya. This expansive scope could have influenced the way data was collected and writing the final report as well. Further still, the study does not specify who the significant players in the

knowledge transfer are therefore leaving a lot to be desired. This is why this study was designed with a narrower scope to enable a more in-depth examination of knowledge transfer within the context of higher education.

2.3.2 Strategies of Mentoring Doctoral Students for Knowledge Transfer.

Doctoral students require different types of mentoring depending on the stage of the graduate work in which they find themselves. A study of Boston public school seniors, who in 2009 graduated and received mentoring from staff of community-based college-access organizations through their first year of college, found that the students had a 3.5 percent higher persistence rate than 2008 Boston graduates who did not receive such support (Sum et al., 2010). The greatest increases were found among 2009 graduates enrolling in two-year colleges, who had a 77 percent persistence rate compared with 67 percent for 2008 graduates. From this study, it can be deduced that mentoring has several accrued benefits to the mentee far beyond the institutional context. Although Boston is in a developed country and taking into account the fact that school seniors is equivalent of Kenya's undergraduates, the needs of all students have over the years been found to be similar. It is due to this factor that a study on mentoring of doctoral students in a developing country within the Kenyan context was deemed necessary to help in advancing any similarities and/or deviations from the Boston findings.

Still in the United States, Yob & Crawford (2012) synthesized qualities of mentoring students from both the professional and research literature in order to develop a conceptual organizational framework for mentoring doctoral students. The study was purely qualitative and used literature review to capture the most current ideas although most of the literature was built on earlier theoretical and research studies. Findings indicated that mentors' competence, availability and personal qualities played a key role in their relationship with their mentees. The

duo recommended a three-tier mentoring model which would open up an area of inquiry and that future studies should validate model in different contexts and with participants from diverse backgrounds. In response to this, the current study sought to improve the three-tier model by introducing an element of time as being key in how doctoral students are mentored. This is why the time bound mentoring theory was advanced in the current study for mentoring doctoral students for knowledge transfer in higher education. Again the context in which the current study was conducted was completely different from the one where the earlier study was conducted. For instance, the current study took place in Kenya, a Least Developed Nation when compared to the developed context for the earlier study.

A study in Romania, (Lefter, Bratianu, Agapie, Agoston and Orzea, 2011), addressed intergenerational knowledge transfer in an academic environment of a knowledge based economy. The study targeted members of the academic staff of economics and business faculties from the main Romanian University. They used mixed methods research design to gather information from the main Romanian University. In their conclusion, they echoed that intergenerational knowledge transfer is important for the enhancement of knowledge based economies. The study however did not specify the sample size used in the study. Besides, the researchers did not specify which of the mixed method designs was used. There was need to fill these glaring gaps. This is why it was felt that a study with a specified sample size and mixed methods design need to be carried out. Furthermore, the current study was on mentoring doctoral students for knowledge transfer in higher education to diversify the scope from intergenerational knowledge transfer which was the focus of the earlier study in Romania.

Data was gathered from academicians on how they interact and transfer tacit knowledge with each other in an informal environment in the Turkish Republic of Northern Cyprus (Takwe

& Sagsan, 2011). The study was qualitative in nature and used in depth interviews to collect data. The results show that some of the key areas that require attention are tacit knowledge awareness and benefits of knowledge transfer. They concluded that collaborative systems, such as co-teaching, co-presentations at conferences, and research supervision should be strengthened among the lecturers in order to increase their skills and ability. Although Takwe and Sagsan studied academicians in higher education, they did not specify the sample size. They concentrated only on lecturers and how they benefit from mentoring in terms of knowledge transfer without explaining how that knowledge will be transferred to the students. Due to this, this study addressed mentoring at higher education level among doctoral students. Additionally, the current study used mixed methods research design so that the data could be triangulated.

Mentoring takes place within the process of a sequence of activities such as relationship building, development, engagement, reflective process and assessment. Through a qualitative study, Seekoe (2014) developed and described a model for mentoring newly appointed nurse education. A qualitative study sought to develop and describe a model for mentoring newly-appointed nurse educators in nursing education institutions in South Africa (Seekoe, 2014). In developing the theory, the study's framework conceptualization focused on the context, content, process and theoretical domain. Ideas from theories were borrowed and integrated with the reviewed literature and deductive and inductive strategies were applied. The results showed that the structure of the model is multi-dimensional and complex in nature based on the philosophy of reflective practice, competency-based practice and critical learning theories. The study elaborated further that in a mentoring relationship, the stakeholders are the mentor and mentee within an interactive participatory relationship taking place within the process with a sequence of activities such as relationship building, engagement, reflective process and assessment. The

study concluded that the model can be used to develop mentoring programmes for newly-appointed nurse educators. Although Seekoe's study advanced a model that recognized sequencing mentoring activities, it did not explicitly give time lines for each activity in the sequence. Owing to this, this study developed the Time Bound Mentoring Theory, a mentoring theory which revolves around time as its key factor for mentoring relationships. The emerging theory will aid in specifying how long a doctoral student should be engaged in a sequence of activities. Seekeo's study targeted newly posted nurses in nursing education institutions in South Africa from which a sample size of 82 was drawn. The study targeted nurses who had just completed their studies without factoring in those who were still in the system a factor that may have resulted in skewed findings due to the sampling. As a result, the study left us with unanswered questions about how the findings would have been had more stakeholder groups been involved. Therefore, it was imperative to carry out another study that factor-in more than one stakeholder groups.

A study on mentoring in the medical field was carried out in Kenya with an objective of examining results from eight regional laboratories (Makokha, Mwalili, Basiye, Zeh, Emonyi, Langat, Luman & Mwangi, 2014). The study used workshops interspersed with three month period of project implementation and mentorship. Progress was evaluated at baseline, midterm and exit using an audit checklist and scores were converted into a zero-to-five-star scale. The results showed that all the laboratories were below the one star level in the baseline. In the midterm, all laboratories measured improvements while in the exit results, twinned laboratories reached 2-4 stars while the non-twinned ones reached 3 stars. The study concluded that partnership used by twinning models holds promise for future collaboration in health for laboratory quality improvement. In terms of scope, Makokha *et al* carried out a study in medical

field, a similar study in the education field would be imperative for purposes of replicability. Again, the earlier study was a pure experimental in design which left room for other research designs to be employed in other studies. This justifies the use of mixed methods research designs in carrying out the current study.

Elsewhere in Kenya, Chumba and Kiprop (2014) carried out a study to determine the kinds of pedagogical preparation needed for prospective teachers. They used questionnaire in their survey to gather information from a sample size of 85 student-teachers on teaching practice from Moi University. The study findings showed that the student-teachers were inadequate in dealing with cultural and ethnic diversity in their classes. This could be attributed to a lack of mentoring to aid in equipping such students with vital skills which are not included in the formal curriculum knowledge content. This is further alluded to by the recommendations by the study that there is need to tap on experience of cooperating teachers to mentor the pre-service trainees. Chumba and Kiprop's study focused on pre-service teachers. This study targeted the doctoral students in order to establish how well they are prepared for the job market that awaits them mostly in teaching in higher education sector itself. It is due to this that this study sought to collect data from doctoral students in a public and a private university.

2.3.3 Factors affecting Mentoring Doctoral Students for Knowledge Transfer.

Extensive literature review was carried out by Kelch-Oliver, Smith, Johnson, Welkona, Gardiner & Collins (2013) in the United States. The study sought to address unique issues related to the mentoring experience among African-American women in psychology across different stages of programme development (undergraduate, graduate and faculty). The study employed feminist models, social network theory, identity information theory and the linear model. Among the key findings of the study was that most of the women in psychology studies felt that

mentoring was introduced late in their career development process. In recommendation, the study advanced that mentoring should begin at undergraduate years and continue throughout the pursuit of the graduate degrees and long term career in psychology. The scope of the earlier study may have been too broad for the findings to be transferrable. Again, considering that mentoring needs of students are likely to vary from one level of education to the other, studying all the three groups together may not have been the most appropriate. Instead, the researchers could have studied each group independently so as to address group-specific needs. In order to go about this, the current study was carried out on doctoral students only to allow for a comprehensive study of the participants. This helped in increasing the chances of generalizability of the findings as the needs of doctoral students are likely to be similar in different contexts.

A literature review study by Byrant-Shanklin and Brumage (2011) used Collaborative Responsive Education Mentoring Model, CREMM, to refocus mentoring. The study targeted pre-service postgraduate education students in Norfolk State University in the USA. According to the study findings, academic culture greatly affects the mentoring relationship. The earlier study is similar with the current study in that both target postgraduate students. However, the American study embraced literature review approach which this found to be inadequate as a standalone in addressing the phenomenon of mentoring doctoral students exhaustively. This inadequacy prompted the researcher to use mixed research designs in the current study's methodology. The study was also characterized by an extensive and intensive fieldwork in order to bridge the gap left by the literature review in the earlier study.

In order to investigate the role, risks and benefits of peer mentoring relationships in higher education in the USA, Colvin and Ashman (2010) carried out a year-long data collection exercise in the Utah Valley University. The study sampled 40 returning and new mentors,

instructors and students and carried out interviews with 12 current members, eight newly selected members, 10 instructors and 10 students. Observation was also used along with the interviews. The findings showed that expertise, experience and power can complicate mentoring relationships and that the hierarchical ordering and resources flow in the mentoring relationship create possibility for misunderstanding or misuse in the mentoring relationship. Colvin and Ashman did not explain the sampling procedure that they used to select the sample for their study. Owing to this, this study established that there was a gap that needed to be filled appropriately by a study with clearly specified sample size and sampling procedures. This is why this study singled out the use of both probability and non-probability sampling techniques. It was also imperative to carry out a study in the context of a developing nation in order to see how similar or different the findings would compare with those from the previous study.

A study in Northern Romania explored knowledge transfer in higher education organizations (Nicolae & Vitelar, 2013). The study was purely qualitative and collected data from 22 professors by means of interviews. Concepts of leadership were the main focus of the study which found out that professional competence entails understanding the environment of higher education. As a way of conclusion, the study asserted that the ability to communicate, share and innovate is critical in order to meet the challenges of a knowledge society. The study focused mainly on leadership aspects of knowledge transfer which may not give a clear picture of how knowledge should be transferred. Again, the study did not specify who the professionals were. This leaves a gap in knowing which professionals took part in the study. This study employed both qualitative and quantitative paradigms. The scope of the current study was limited to two universities and mentoring doctoral students.

Research activity should be carried out with utmost care, dedication, and involvement. Mohan (2010) investigated mentoring doctoral students in India. The study sought share the experiences regarding the supervision work of Doctoral research, identify the problems of the Doctoral students, where mentoring is needed, suggest solutions for the problems related to mentoring of Doctoral students. The scope of the study is confined to Indian experience. The study employed empirical methods and data was jotted down from the research and guidance experience of the author for the past 20 years. The researcher identified 10 aspects against which the student behaviour and mentoring needs were assessed. Results of the study showed that there were considerable instances of misunderstanding on the part of the students and almost a majority of them did not get inclined to do collaborative research. On the other hand, some of the students turned out to be dropouts and did not bother to continue relation with the Department or the supervisor.

The study in India sought to share the experiences of the doctoral research thus may not have addressed the other aspects of the doctoral students' life. For instance in the case of Kenya, most doctoral studies include course work which constitutes a key component of the programme. This is why this study found it imperative to delve into mentoring doctoral students from the onset of the programme through to the successful completion of the programme. Additionally, the study in India may not have dealt with the question of objectivity adequately as it relied heavily on the lived experience of the investigator as a supervisor. This implies that chances of subjectivity could not have been avoided easily. In order to address this, the current study used source triangulation to gather data from different stakeholders. It is the reason why apart from the doctoral students, supervisors, chairmen of departments and faculty deans were included in the sample for the current study.

The higher education sector plays a major role in knowledge transfer. A study by Sriwichai, Meksamoot, Chakpitak, Dahal and Jongjalean (2014) sought to propose Knowledge Management System Based Mentoring (KMSBM) to be used to disseminate research experiences of senior staff to enhance abilities of newly PhD graduate staff to get the qualified research output. The study was carried out in Thailand used interviews to collect data from three senior professors and seven PhD candidates and three new graduate staff. The case study also carried out document analysis of handbook, educational plan to collect data about PhD research procedure. The results showed that the faculty had a crisis of insufficient research output, low numbers of publication internationally, and a limited number of staff who were able to supervise PhD students. The study sample was too small hence may not have provided a representative picture of the target population. Owing to this, the current study sampled a larger sample in order to achieve representativeness. Additionally, the case study as a research design may not have yielded the extent of effectiveness of knowledge transfer in research mentoring as the study sought to establish. In this regard, this study used quantitative paradigm to quantify the findings.

Mentoring offers a framework by which novice practitioners are taught to adapt and succeed academically and professionally. Using mixed methods research design, Ndebele, van Heerden and Chabaya (2013), used Bandura's social learning theory to explore how mentoring can nurture professional development among academic staff. The study took place in South Africa and collected data by use of questionnaires and narrative inquiry approach. Findings showed that time was a major challenge confronting mentoring programme and recommended that there was need to demystify mentoring as a concept. Ndebele, et al targeted academic staff while the current study targeted doctoral students as mentees as well as mentors in contrast to mentors only in order to draw from their ongoing experiences. Additionally, using the social

learning theory in a study targeting mentors instead of mentees may not have been appropriate. Instead, the current study was hinged on the social exchange theory.

Still in South Africa, Van Brakel (2010) sought to argue and demonstrate that a virtual community of practice is the ideal environment to mentor doctoral students in certain aspects of their research. The case study focused on information recording techniques among doctoral students. A sample of 130 doctoral students drawn from one university in South Africa took part in the study. Findings revealed that the theory and practice of a sub-section of literature review is often neglected in sources about research methods even in sources that specifically describe the management of research-based information. The study recommended that mentoring doctoral students could be enhanced through the establishment of virtual community of practice. Whereas the earlier study focused on virtual community of practice to carry out a case study on information recording techniques, the current study had a broader scope of delving into various activities that the doctoral students were engaged in to promote knowledge transfer. This broader scope enabled the current study to explore to a deeper level the various aspects of mentoring that could make mentoring doctoral students successful. The divergent scope of the two studies would aid in ensuring the replicability of the two studies with different groups of participants

Education takes the bulk of the resources provided for in the social sector accounting for up to 73% of the total social sector and 27% of the total government budget (CHE, 2008). However, Garwe (2015) carried out a study and found out that shortage of supervisors, unavailability of doctoral programmes at 60% of local universities and inadequate funding and resources contributed to poor mentoring and preparation of doctoral students. The study sought to provide empirical evidence on the status quo of doctoral education and identify reasons for the same. Using document analysis and telephonic interviews, the researcher collected data from all

the 15 registered universities in Zimbabwe. Garwe recommended that governments should adequately remunerate university staff and provide funding for research and doctoral studies. Although Garwe's study was in the context of a developing nation, it assumed that the registered universities enjoyed similar characteristics. The study thus overlooked key institutional-specific factors such as student characteristics, student population, university policies, infrastructure and culture of individual university. This study factored in these constructs under the moderating variables in comparing a public and a private university in Kenya.

While exploring mentoring at an emerging historically Black University in Zimbabwe, Mudhovozi, Manganye and Mashamba (2013) purposively selected five senior university lecturers. There were four male and one female in the sample that comprised only those who had taught for at least 15 years and wee supervising postgraduate students undertaking research at the time of the study. A semi-structured interview guide was administered for data collection. Results showed that mentoring was offered in the form of supervision training programmes for the mentors and support was given to supervisees by their mentors. The trio concluded that majority of the mentors did not receive training on how to supervise postgraduate research. They recommended that departments and faculties ought to equip mentors for programmes with knowledge and skills to effectively supervise their mentees. In the earlier study, the focus was on supervision which may further the misconception that it is synonymous with mentoring. In order to clear such misconception, the current study sought to include supervision as one of the mentoring strategies in its conceptual framework.

A survey study by Muola and Mwania (2013) addressed the emerging need for academic advising in schools, colleges and universities in Kenya. The study was conducted on two theoretical bases: Piaget's cognitive theory and Vygotsky's socio-cultural theory. One hundred

and eighty seven university students participated in the survey. Results showed that benefits accrued from mentoring included maintaining high academic grades, handling academic workload, setting career goals, setting academic goals, acquisition of computer skills and test taking skills. The study was conducted in three distinct levels of education collectively. It is important to point out that although mentoring is a necessity across all levels of education, each level is likely to have its unique requirements and needs to be addressed separately in mentoring. There was need to carry out a study on each of the three levels distinctly in order to make more specific generalizations. Because of this reason, a study was conducted at the university level. The current study filled the gap of distinguishing the precise benefits of mentoring at this level of education.

2.3.4 Perceptions of Doctoral Students towards Mentoring for Knowledge Transfer.

Conceptualizing mentoring as a holistic process includes taking into consideration that the perspectives of different individuals can assist mentoring programmes in improving their effectiveness (Budge, 2006). Perhaps the most crucial individual to consider would be the mentee in terms of their general outlook towards the mentoring relationship. Bagaka, Badilo, Bransteter and Rispinto (2015) explored the features of an educational doctoral programme that enhances doctoral students' success in the USA. Using mixed methods, they sampled 133 participants comprising alumni and students in session. They administered 113 survey monkey and 20 focus group discussions to collect data. One of the key findings of the study was that female doctoral students had a significantly higher level of satisfaction with the programme than their male counterparts. The researchers recommended that doctoral programmes need to incorporate research engagement and effective mentoring activities into the programme structure for sustainable scholarship. Bagaka et al studied alumni and ongoing students together without

seeking to draw a comparison between the two groups for clarity of the findings. The study left a grey area for gauzing whether there were any variations between the two categories. In order to clear the gray area, this study focused on doctoral students who were in session at the time of data collection and to help shade more light on what is going on in the selected universities in as far as mentoring doctoral students for knowledge transfer was concerned.

Effective mentoring can enhance career outcomes and offer psychosocial benefits. In the USA, Rodgers and Cudjce (2013) sought to raise awareness about positive images of Black educators, administrators and staff in higher education. They used purposive sampling to sample 11 employees at the City University of New York. Their inclusion criterion was that one had to be Black and employed at the university for a period of over six years. The study emailed semi-structured questions to participants and analyzed photographs and oral narratives for data collection. Findings from the study showed that participants perceived mentoring as key to discernment of mentees' personal and vocational dream and that mentors were perceived as educators.

In the earlier study, Black employees were the target population in a context of a developed country. Further still, the study was purely qualitative and used purposive sampling to select Black employees. This leaves a lot to be desired as the study participants may have been biased in their responses since the study was about images of Black while themselves they were Black. Furthermore, the study failed to disclose the research methodology employed. In order to address this pending knowledge lacuna, a study in the context of a developing nation, Kenya employing both qualitative and quantitative methods to enhance complementarities was advanced. Again, instead of emailing the semi-structured interviews, the current study carried

out face-to-face interviews in order to capture other non-verbal cues such as gestures, facial expressions, silence, and other images of body language.

Using the social exchange theory to analyze qualitative narratives, Reddick and Griffin (2012) explored the impact of participation in the mentoring programme on the personal development, professional development and growth as citizen scholars. The duo sampled 81 graduate student mentors participating in the Intellectual Entrepreneurship Pre-Graduate Internship at the University of Texas in the USA. They employed qualitative techniques and collected data through document analysis. In their findings, Reddrick and Griffin showed that serving as a mentor provided a deeper perspective both on personal and academic discipline because mentoring heightened awareness of the reciprocal nature of the mentoring relationship. They recommended that deans should strongly consider how to institutionalize efforts to expose doctoral students to mentoring experiences by providing structured opportunities to mentor undergraduates with sufficient training and support to facilitate the former's learning and development. Within the social exchange theory, negotiated exchange is a strictly binding agreement between the mentor and the mentee. By paying attention to the principle of reciprocity alone, Reddrick and Griffin left the principle of negotiated exchange unattended. One cannot tell whether the results of their study were as a result of reciprocity or negotiated exchange. This study bridged the gap between the two principles of the social exchange theory by seeking to determine how the doctoral students were mentored for knowledge transfer in higher education.

Additionally, Felder (2010) examined the influence of faculty mentoring in the shaping of African-American doctoral students in the United States. The study used a case analysis framework to investigate the belief systems that doctoral students held about their doctoral experience. Data collection involved a one-phase semi structured interview protocol used to

gather information about these experiences from a post-degree perspective. In the study, African American doctoral degree completion is addressed as a critical function of student success within an elite educational context. Results of the study demonstrate that the African American doctoral degree completion is complicated by students' perceptions of faculty mentoring, faculty behavior and the lack of diverse faculty leadership.

Felder's study is significant to the current study in that both target doctoral students. However, whereas the previous study focused on African American-students, the current one targeted African students. Felder's study was purely qualitative and relied solely on in-depth interview to gather data. A hybrid study involving quantitative approach as well was important to supplement the findings from the qualitative approach. This is why a mixed methods study was conducted which found significance in Fedler's in the sense that both focused on higher education.

In recent years, mentoring has emerged as a research domain, however, the preponderance of mentoring research has been situated first, in the business or organizational settings and focusing on mentee experiences, using quantitative survey instruments to collect data. Thus, mentoring research literature includes a paucity of formal studies in the arena of graduate education. Burg (2010) investigated the perspectives of faculty-mentors who provided mentoring to doctoral students who completed the doctoral degree, employing the qualitative research methodology known as phenomenology, as an orthogonal but complimentary epistemology to previous quantitative studies. The study was located in the College of Education of a large research university, and sampled 262 College of Education doctoral graduates to nominate College of Education faculty who provided mentoring to them during their degree pursuit. A total of 59 faculty were nominated as mentors. Six of the most frequently nominated

mentors participated in two semi-structured interviews which addressed the mentor's experience of the mentoring endeavor, seeking to gather a description of their lived experience of mentoring and the meanings they garnered from it. The interviews yielded several shared perspectives on mentoring such as values, motivations, symbiotic relationship, and contextual negotiation.

Whereas Burg's study was seeking the perspectives on doctoral students mentoring, the current study sought to investigate forms, strategies of mentoring, factors affecting mentoring and perceptions of doctoral students towards mentoring doctoral students for knowledge transfer in higher education. It was deemed important to carry out a study with a broader scope in order to increase chances of ensuring a deeper investigation of the matter at hand. Again, this study involved knowledge transfer as an outcome variable in order to gauge the end product of mentoring doctoral students. The earlier study was purely qualitative while the current one used both qualitative and quantitative research designs to triangulate the findings. The triangulated findings assisted in ensuring corroboration of the study findings.

In a qualitative study, Minnix (2013) explored the role of the mentor in faith development in higher education in northeast USA. The study employed in-depth one-on-one interviews to collect data on how participants believe they can positively impact their faith growth as well as the challenges and hurdles that exist. The current study found Minnix's study relevant in that both were interested in the preparation of students beyond mere knowledge acquisition that is, fostering the holistic growth and development of the doctoral students. This is because the current study explored mentoring as a possible means of fostering and ensuring holistic preparation of doctoral students for the responsibilities that await them after completion. In as far as the methodology is concerned; this study employed a mixed methods approach to juxtapose the findings from the earlier study which was fundamentally qualitative. By focusing only on the

faith development of doctoral students, the earlier study remained silent on other crucial aspects of the students such as their personal aspirations and goals. In so doing, a knowledge gap was left which this study sought to fill.

While investigating the characteristics of research mentoring provided to postgraduate students in universities in Southern Nigeria, Olibie, Agu and Uzoechina (2015) used proportionate stratified random sampling to select 180 postgraduate students for their study. The quantitative study used questionnaire to collect data and analyzed the data using descriptive statistics. The study established that research mentoring across the institutions was characterized by supervisors' criticism without providing insights. Setting unrealistic goals was common and erosion of students' self-esteem were among the key findings. Apparently, Olibie *et al.* failed to pay close attention to the fact that apart from being discipline-specific, mentoring is also programme-sensitive. By bringing together students in the Postgraduate Diploma in Education (PGDE), Masters and PhD into a common pool in their study the trio created a lacuna as to how the findings would look like if the groups were standalone. In an effort to fill this knowledge gap, this study addressed itself to doctoral students only.

Within the Kenyan context, Aloka and Ndeke (2013) investigated the effects of e-mentoring on self-efficacy and academic achievement by comparing students in a mentoring programme with those who were not. They used ex-post facto to study 92 students from two secondary schools. The study findings showed that the e-mentoring programme had positive influence on the mentees self-efficacy and academic achievement. Aloka and Ndeke's findings did not agree with those from Muola, Maithya and Mwinzi (2011) although the two studies both used ex-post facto design. In order to bridge the gap in the disparity of these findings, the current

study was conducted using a different research design: cross sectional survey and phenomenology.

2.4 Critique of Reviewed Literature and Knowledge Gap

In order to capture the most current ideas, a state-of-the-art and narrative reviews were carried out for the empirical studies while the theoretical review was on earlier theories. From the reviewed literature, attempts to identify the knowledge lacuna were made by laying emphasis on certain aspects of the study. Methodologically, most of the reviewed empirical studies were qualitative (Minnix, 2013; Felder, 2010; Yin-Nii & Hse, 2013; Reddick & Griffin, 2012; Rodgers & Cudjjce, Awuor, 2013; Garwe, 2015). A few others were quantitative (Olibie, 2015; Chumba & Kiprop, 2014; Muola & Mwania, 2013; Chika & Nkechi, 2011) while mixed were the least (Bagaka *et al.*, 2015; Lefter *et al.*, 2011; Ndebele *et al.*, 2013). Additionally, most of the studies were carried out in the context of developed nations.

Although some of the reviewed studies were carried out in Kenya, nearly all of them had different scopes. For example, pedagogy (Chumba and Kiprop, 2014), e-mentoring (Aloka and Ndeke, 2013), sustainable development (Namunga and Otunga, 2012), mentoring model in nursing (Seekoe, 2014), management dynamics in knowledge transfer (Nicolae and Vitelar, 2013), and tacit knowledge (Takwe & Sagsan, 2011). From the reviewed studies, only Fedler (2010) targeted doctoral students with none investigating mentoring doctoral students for knowledge transfer in higher education: a lacuna. In order to fill the knowledge gap, a study on mentoring doctoral students for knowledge transfer in higher education was carried out.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

In this chapter, highlights of the research design and methodology employed in conducting the study have been presented. The chapter outlines the research design, target population, sample and sampling procedures, description of the data collection instruments, description of data collection procedures, data analysis procedures and ethical considerations in the study.

3.2 Research Design

This study used both qualitative and quantitative paradigms through a mixed methods approach. According to Gorard (2012), methods can be mixed in numerous ways. In this study, the mixture refers to qualitative and quantitative methods. Within the mixed methods approach, the study employed the nested concurrent triangulation mixed research design as proposed by Creswell (2013). The design enabled the researcher to implement both the qualitative and quantitative methods simultaneously through collection and analysis of data concurrently. In terms of weighting, the quantitative paradigm was more dominant over the qualitative design which was nested in the former.

The nested concurrent triangulation design was deemed an appropriate design for the study as it enhanced, as posited by McMillan (2008), the credibility of the findings while enhancing corroboration of findings. This was particularly so since the study was interested in validating and expanding quantitative findings through qualitative methods. Creswell and Plano-Clark (2006) advanced that triangulation design has sub types. The study employed cross sectional survey to facilitate data collection from all the sample groups concurrently. The choice

of the cross-sectional design was in tandem with McMillan (2008) who postulates that the design facilitates collection of data from one or more samples at the same time. This was suitable in this study since the study took place in two distinct universities comprising of several doctoral programmes. Therefore, the researcher found the design appropriate for collecting data from the two selected universities and the various categories of participants in order to establish the relationship between various variables. Additionally, the design enabled the researcher to describe the doctoral students in aspects such as their perception scores and behaviour towards mentoring for knowledge transfer in higher education. The researcher hoped that this would eventually facilitate the generalizability of the findings.

In this study, phenomenology design from the qualitative paradigm was also used. Johnson and Onwuegbuzie (2004) observe that phenomenology is useful in studying variables in an in-depth way in order to establish the existing situation from the participants' perspective of the reality. The researcher, through phenomenology, established the existing practice of mentoring doctoral students for knowledge transfer in higher education in the selected universities in Kenya. Under phenomenology, the researcher also paid close attention to the explanations given by the participants to their varied experiences. These explanations enabled the researcher to gain a deeper understanding and better interpretation of the importance attached to mentoring experiences by the participants themselves. This is why some of the participants in this study were engaged in face-to-face interviews.

3.3 Target Population

This study focused on two universities in Kenya. One is public, the University of Nairobi (UoN) and another is private, the Catholic University of Eastern Africa (CUEA). In this study, the target population comprised of all the doctoral students, supervisors, Chairmen of

Departments, Faculty Deans, Directors of Board of Postgraduate Studies as well as the DVCs academic affairs. The study targeted doctoral students because student-faculty mentoring relationships are an inherent part of the graduate training models in many disciplines (Yob & Crawford, 2012). The rest of the target population were deemed by the researcher to be custodians of key information in as far as mentoring doctoral students for knowledge transfer in higher education is concern. The study's target population was as summarized in Table 1.

Table 1

Target Population Matrix

Population	Number
Doctoral Students	1800
Supervisors	82
Chairmen of Departments	31
Faculty Deans	6
Directors, Board of Postgraduate Studies	2
Deputy Vice Chancellors, Academic Affairs	2
Total	**1923**

Source: UoN & CUEA (2016)

3.4 Sample and Sampling Procedures

Adhering to Saleemi (2011), the researcher carried out sampling in order to get more detailed information from an investigation of a smaller part of the target population. This is based on the fact that under prevailing circumstances, it was impractical to include everyone in the target population in the study. Through sampling, the researcher was able to uphold the need for what Manning and McMurray (2009) describe as a representative sample. Following the use of mixed methods design, the study employed both probability and non-probability sampling techniques.

Under probability sampling, the researcher used stratified random sampling as advanced by Saleemi (2011). The universe is not homogeneous hence the need to divide the target

population into groups such that members of each group are as similar as possible. In this study, the target population was initially divided into, doctoral students, supervisors, chairmen of departments, deans, directors of boards of postgraduate studies and DVCs. This implies that in the study, the different groups divided the target population into six strata.

3.4.1 Universities.

According to McMillan (2008), there is always a justification why the individuals or sites will provide the best information to address the research problem. Out of the fifty three universities in Kenya, twenty two are public while the remaining thirty one are private (CUE, 2013). This study sought to make a comparison between a public and a private university. From the public universities category, the researcher purposively selected the University of Nairobi while from the private universities the Catholic University of Eastern Africa was also purposively selected. The choice of both universities was reliant on the exclusive judgment of the researcher. The researcher's judgment was based on the premise that the two universities were the most typical of the entire university population with regard to the characteristic under investigation, which is, mentoring doctoral students for knowledge transfer.

The University of Nairobi was selected for the study on the basis that among all the public universities in Kenya, as portrayed by CUE (2013), it was the most highly populated in as far as student enrolment is concerned. For instance, in 2015, the university had 65 Doctor of Philosophy programmes and a PhD student population of 1,569 (UoN, 2015a). Additionally, the UoN is the oldest and largest institution of higher learning in Kenya, dating back to 1970 (UoN, 2013). As the pioneer university in the country, it is expected that all other universities are drawing a lot from the practices at the University of Nairobi. According to UoN (2015b), the university currently has 80,000 students and 2052 academic staff. This translates into a lecturer:

student ratio of 1:41. Significantly too is the fact that the UoN was ranked first in Kenya and 18th among the top 1000 universities in Africa. Globally, the university ranked 907 out of the top 22,000 universities (Academic Ranking of World Universities, ARWU, 2015). Ranking is done according to the number of professors in a given university and research output. The researcher therefore judged that the UoN was a must select site for the study due to her inherent role of providing leadership in the domain of higher education in Kenya. It is due to this that this study deemed the University of Nairobi an appropriate site-choice under the public universities category in Kenya.

Among the private universities in Kenya, the Catholic University of Eastern Africa stands out as the largest not only in student population but in doctoral programmes as well. For instance, CUE (2013) shows that CUEA has over fourteen doctoral programmes as compared to the closest United States International University (USIU) which has only three. Daystar and Methodist both have two doctoral programmes respectively. Due to the accelerated growth of CUEA, both in student enrolment and programmes, this study found it an appropriate site-choice from the rest of private universities in the country.

3.4.2 Campuses.

The University of Nairobi and CUEA are both multi-campus universities. In this study, the researcher purposively selected the main campuses of both universities. In the case of CUEA the main campus was selected while for the UoN, the main campus, Kikuyu and Lower Kabete campuses were automated into the study by the virtue of the researcher having settled for the faculty of Arts, Education and Business respectively. The rationale for selecting the main campuses was that these are most likely to have all the doctoral programmes offered by the respective universities considering that, according to GOK (2012), the main campus constitutes

the Seat of each university. The selection of main campuses therefore guaranteed a representative sample of the doctoral programmes offered by each university.

3.4.3 Deputy Vice Chancellors, Academic Affairs.

Due to their strategic positions in policy matters in as far as academic affairs are concerned in their respective universities, this study purposively included the DVC Academic Affairs. After selecting the two universities, the DVC academic affairs of the respective university became part of the sample. The study approached mentoring doctoral students for knowledge transfer to be a policy issue at university level. Owing to this, the researcher found DVC academic affairs suitable as key informants on policy matters on the topic at hand.

3.4.4 Directors, Boards of Postgraduate Studies

Similarly, the Directors of the Boards of Postgraduate Studies of the two universities were automatically included in the study. The total sample size for this category was two with one coming from each university.

3.4.5 Faculties and Faculty Deans.

According to Wamugunda (2015), the University of Nairobi has sixteen faculties. The Catholic University of Eastern Africa on the other hand has six faculties CUEA (2008). Out of the six faculties in CUEA, five offer doctoral programmes. For purposes of this study, only those faculties offering doctoral programmes participated. In order to select faculties, the researcher used disproportional stratified random sampling. This implies that the sample size did not depend on the number of faculties in any given university. The study sampled three faculties from each university. In both cases, simple random sampling was carried out to select these faculties at CUEA where the faculties were few. According to McMillan (2008), a sample size of between

5% and 10% is representative enough. In the case of this study, sampling three faculties accounted for over 30% of the faculty population hence was representative.

Under stratified random sampling, the researcher used faculties as strata for the faculties before using simple random sampling to select three faculties from CUEA. The names were written on separate slips of paper of identical size, colour and shape. These slips were then folded and mixed up in a container before a blindfolded selection was made of three faculties that are required for the study. The study used simple random sampling without replacement.

According to Saleemi (2011), simple random sampling without replacement rules out the chances of selecting one unit more than once. In the context of this study, this meant that each of the faculties in both universities had only one chance of being selected. After selecting the three faculties at CUEA, their corresponding faculties were selected at the University of Nairobi. For each of the three faculties from each university, the researcher automatically included their respective Deans. This implies that six Faculty Deans from CUEA and UoN altogether participated in the study by the virtue of having their faculties selected.

3.4.6 Departments and Chairmen of Departments.

After selecting faculties, the researcher stratified each faculty along the departments. In cases where there were less than three departments handling the PhD programme, all were included in the study. However, where the departments were more than three, the researcher selected three using stratified random sampling from each respective faculty. The basis for stratification was the areas of specialization. This means that from each university nine departments were selected. In order to select the three departments from each faculty, the names of all departments in the respective selected faculties were written down on separate pieces of paper. The papers were of identical size, colour and shape. These papers were then folded and

shuffled up in a container before a blindfolded selection without replacement. The process was repeated until each of the three faculties was completed in each university. This process yielded eighteen departments for the entire study. By the virtue of having their departments selected, the respective Chairmen of departments were automatically included in the study. Therefore, this study selected 18 Chairmen of departments from the two universities.

3.4.7 Supervisors.

Due to supervisors' central role in the academic life of doctoral students, the researcher found it important to include them in the study. First and foremost, the supervisors were stratified according to their faculties. From each of the earlier selected faculties, the researcher used simple random sampling to select five supervisors. Names of supervisors in the selected departments were written down on separate pieces of paper. The papers were of identical size, colour and shape. These papers were then folded and shuffled up in a container before a blindfolded selection without replacement was done. This process yielded fifteen supervisors from each university and thirty in total from both universities.

3.4.8 Doctoral Students.

At the core of this study were the doctoral students. Using disproportional stratified random sampling, the researcher first categorized the doctoral students into their respective faculties. The next step entailed using simple random sampling to select 32 students from each faculty. Under simple random sampling, the study had names of all doctoral students in each department written down on paper strips of identical colour, size and shape. The researcher then had the paper strips containing names of each student folded and shuffled thoroughly in a container separately.

The selection of 32 names was then done randomly from the container one after another until 32 names are arrived at. The process was repeated for each faculty until the desired sample size of ninety six doctoral students in each university was reached. A total of one hundred and ninety two doctoral students were thus selected for the study. This sample size represented nineteen percent of the entire doctoral student population. The study found the sample adequate as it meets the minimum threshold of five percent proposed by McMillan (2008). Further details on the sample and sampling procedures for the study were as shown in Table 2.

3.4.9 Sampling Matrix for All Participants.

The following Table summarizes the sample and sampling procedures for the study.

Table 2

Summary of Sampling Matrix for the Study

Participants	Target Population	Sampling Technique	Actual Sample	Percentage
Doctoral Students	1800	Stratified random	192	11%
Supervisors	82	Stratified random	30	37%
Chairmen	31	Stratified random	18	58%
Deans	6	Automatic	6	100
Directors, BPS	2	Automatic	2	100
DVCs Academic	2	Automatic	2	100%
Total	**1923**		**250**	**13%**

Source: Researcher, 2015

Table 2 shows that this study targeted a population of 1923 out of which a sample size of 250 participants was selected. Both probability and non-probability sampling techniques were employed as appropriate. The entire sample size for the study constituted 13% of the target population. According to McMillan (2008), a sample size of five percent is representative enough. Therefore, the study found the sample size of 13% adequately representative.

3.5 Description of Research Instruments

Following the use of triangulation mixed methods design, this study employed both qualitative and quantitative research instruments for data collection. The study used document analysis guide, interview guide and questionnaire to gather data from the participants. According to Artrino, La Rochelle, Deeze and Gehlbach (2014), questionnaires are good for gathering data about abstract ideas or concepts that are otherwise difficult to quantify, such as opinions, attitudes and beliefs. In this study, the choice of the questionnaire was also based on the premise that it would enhance anonymity of participants (McMillan & Schumacher, 2001). The questionnaire also enabled the researcher to gather data from the large number of doctoral students and lecturers who could otherwise not all be interviewed by the researcher. The interview guide on the other hand provided an in-depth data which could not be yielded by the questionnaire alone. As McMillan (2008) contends, the interview guide is flexible hence allowed the researcher to ask probing questions for clarity and elaborate information from the key informants during the interviews.

3.5.1 Questionnaires.

The study used questionnaire to gather data from doctoral students, supervisors and Chair participants. This study developed three sets of questionnaires. The three sets of questionnaires comprised both open and closed-ended items.

The choice of the questionnaire as a data collection instrument was on the premise that, as advanced by McMillan (2008), it enabled the researcher to reach the widely spread sample easily. Additionally, Fowler (2009) posits that using a questionnaire enables the study participants to freely express their views without any fear of intimidation. The questionnaire also allowed anonymity of participants in this study thereby ensuring procedural uniformity.

Furthermore, since all the targeted participants were literate, the researcher found questionnaires handy in gathering data from the doctoral students, supervisors and Chairmen of departments whose huge number may not allow all of them to be interviewed within the study timeline. In the study, all questionnaire sets were respondent-completed because, as Manning and McMurray (2009) observe, this allowed participants to answer the questions at their own convenience while also reflecting on their own responses. Details of the various questionnaire sets for respective groups in the study were as discussed in the next section.

Questionnaire for Doctoral Students

The questionnaire for doctoral students was sub-divided into five sections (Appendix I). Section A contained background information of the doctoral student participants, while section B addressed ways of mentoring doctoral students for knowledge transfer in higher education. In section C, the items related to factors affecting mentoring doctoral students were presented. Perceptions of doctoral students towards mentoring for knowledge transfer in higher education was dealt with in section D. Section E required the doctoral students to mention challenges facing mentoring doctoral students for knowledge transfer in higher education and ways of curbing the specified challenges.

Questionnaire for Supervisors

This study also gathered data from the supervisor participants by means of a questionnaire (Appendix II). Section A of the supervisor participants' questionnaire sought to solicit their background information. Section B had items on how mentoring doctoral students for knowledge transfer in higher education is done while the section C sought to determine factors affecting mentoring doctoral students for knowledge transfer in higher education. Section D solicited answers to forms of mentoring given to doctoral students. Finally, section E

contained items which required the supervisors to highlight challenges facing mentoring doctoral students for knowledge transfer in higher education and ways of addressing them.

Questionnaire for Chairmen of Departments

Questionnaire for the Chairmen had four sections with the first section dealing with the demographic information of the participants (Appendix III). Sections B and C contained items on how mentoring doctoral students for knowledge transfer in higher education is done and factors affecting mentoring doctoral students for knowledge transfer in higher education respectively. Items which required the Chairmen state some of the challenges facing mentoring doctoral students for knowledge transfer in higher education and possible measures of minimizing them were contained in section D of their questionnaire.

3.5.2 Interview Guide.

In this study, the interview guide was used to obtain information from the Deans and DVCs. The study used semi-structured interview guide as this accommodated both open-ended and closed-ended questions. The interview guide helped the researcher to gather in-depth data which may otherwise not have been yielded by the questionnaire. The flexible nature of the interview guide as advanced by Seale (2011) is another rationale for its choice as a data collection instrument in this study. Due to its flexibility, the interview guide enabled the researcher to probe participants during the interviews for more clarity and elaborate information.

The researcher used immediate retrospective probing. According to Artrino (2014), the immediate retrospective probing allows the interviewer to probe the respondent without interrupting between each item. Additionally, Watt *et al.* (2008) point out that this approach has the potential benefit of reducing the recall bias. By probing the participants further, more

meanings were drawn from the direct verbal as well as the non-verbal interaction between the interviewer and the participant interviewee(s) during data collection.

Interview Guide for Faculty Deans and Directors Boards of Postgraduate Studies

The interview guide for Faculty Deans and Directors, Boards of Postgraduate Studies had items focusing on forms of mentoring given to doctoral students, how mentoring doctoral students is done for knowledge transfer in the university, and factors affecting mentoring doctoral students for knowledge transfer in higher education (Appendix VI). The instrument also had items which sought to establish some of the challenges facing mentoring doctoral students for knowledge transfer in higher education and probable measures of addressing them.

Interview Guide for the DVCs

Items in the interview guide for the DVCs was thematized around how mentoring doctoral students for knowledge transfer is articulated in the university academic policies (Appendix V). This helped the researcher to determine how mentoring doctoral students for knowledge transfer in higher education within the selected universities in Kenya was enshrined in their institutional policies. The other themes in this instrument were the challenges facing mentoring doctoral students for knowledge transfer as a policy matter in higher education and how they could be curbed.

3.5.3 Document Analysis Guide

In this study, document analysis was used to yield data to corroborate the data obtained from questionnaire and interviews (Appendix VI). The researcher chose to analyze PhD students' handbook, the graduation magazines for graduation figures, newsletters and mentoring policy. Data from the document analysis guide was meant to be corroborated with those from the interview guides and questionnaires.

3.6 Validity and Reliability of Research Instruments

The quality of any study depends to a large extent on the accuracy of the data collection procedures. This explains why Kimberlin and Winterstein (2008) contend that key indicators of any research findings are the reliability and validity of the quantitative research instruments. For qualitative research instruments' credibility and dependability was upheld for trustworthiness.

3.6.1 Validity.

In order to establish validity, (Appendix VIII), the study presented evidence by subjecting the instruments to rigorous examination. To uphold content and face validity of the questionnaire and interview guide, the researcher made use of five Subject Matter Experts (SMEs). As Kimberlin and Winterstein (2008) advance, content validity addresses how well the instruments operationalize constructs to provide an adequate and representative sample of all items that measured the construct in question. On the other hand, face validity aided the study to ascertain the degree to which the instruments would measure what they were purported to measure.

The use of SMEs, as posited by Foxcroft, Paterson, Le Roux and Herbst (2004), in reviewing the instruments and selection of the items helped to improve the content validity of the research instruments. The experts also judged the relative criticality or importance of various parts of the instruments. As proposed by Artrino *et al* (2014), a validation guide should be provided for the panel of experts. In this study, a validation guide (Appendix VII), was given to five SMEs drawn from the areas of educational administration and research in higher education. They independently reviewed the items and made comments on their content coverage. In order to do this, each of the identified experts was served with copies of the research instruments to review content validity and return them. Comments and recommendations made by the SMEs

were taken into serious consideration and adjustments made on the items as deemed necessary with the help of the supervisors.

3.6.2 Pilot Testing.

The research instruments for this study were tried out on a small scale in two faculties within the selected universities that were not selected for the actual study. The pilot testing guided the study in establishing whether the research instruments would yield the expected data from the participants. The sample size for a pilot test is at least 10 (McMillan and Schumacher, 2006) even though Radhaskrishna (2007) advances for a lower limit of 20 participants. In this study, research instruments were piloted with 20 participants drawn from two faculties, one from each university.

3.6.3 Reliability of Research Instruments.

The first step towards ensuring reliability in this study was by embracing triangulation method. According to Zohrabi (2013), triangulation is one of the many techniques of ensuring reliability in mixed designed studies. Consequently, in this study, there was the use of different procedures such as questionnaires, interview guide and document analysis guide to collect data for methodological triangulation. To attain source triangulation, data in this study was obtained from different sources such as doctoral students, supervisors, Chairmen of Departments, Faculty Deans and DVCs, academic affairs. In doing so, the researcher held onto the view that collecting varied types of information through different sources would enhance the reliability of the data and the overall results. This makes the possibility of replicating the study findings in future fairly easy.

During instrument development phase, the study ensured that each instrument was long enough by including more items under each question. According to Manning and McMurray

(2009), a long instrument is a principal way to uphold reliability. Additionally, the researcher also wrote the items clearly and made the instructions easy to understand. These measures helped to arrest any possible errors emanating from misinterpretations due to ambiguities during the actual data collection.

In order to ascertain the ability of the research instruments to yield consistent results, the researcher determined the reliability before the actual study. To do so, the study's reliability coefficient was electronically computed through split half. The researcher used split half technique because, according to McMillan (2008), unlike other forms of reliability tests, in split half, only one form of the instrument is given once to one group of individuals. Under split half, the likert items in the questionnaire were divided into equal halves electronically then the scores of each person on the two halves correlated for the reliability coefficient. The Spearman Brown Prophecy formula was then used to adjust the half test reliability to full test reliability. All reliability calculations were done using the Statistical Package for Social Sciences (SPSS), version 20.

A satisfactory level of reliability depends on how a measure is used. According to Malhorta (2004), a value of 0.6 or less generally indicates unsatisfactory internal consistency reliability. However, Nunnally and Bernstein, (1994) advance that in the social sciences, such as education, reliability estimate ranges of 0.7 to 0.8 are acceptable. Guided by these recommendations, the researcher set a reliability coefficient of 0.7 and above as sufficient for the study to proceed. This implies that if the reliability coefficient would have been lower than 0.7, then the researcher would have returned to the drawing board to make necessary amendments in the items in the instruments.

Table 3

Reliability Statistics

Cronbach's Alpha	Part 1	Value	.587
		N of Items	13[a]
	Part 2	Value	.720
		N of Items	13[b]
	Total N of Items		26
Correlation Between Forms			.685
Spearman-Brown Coefficient	Equal Length		.813
	Unequal Length		.813
Guttman Split-Half Coefficient			.806

In this study, each half comprised of 13 items as shown in Table 3. The first half had 0.59 while the second half had 0.72. The resulting coefficient was an estimate of the half instrument reliability of the questionnaire. Thereafter, reliability was determined using the Spearman Brown Prophecy formula to adjust the half test reliability to full test reliability electronically. The full test reliability was established at 0.81 (Gutman split-half). This coefficient was considered adequate for the instrument as it was slightly higher than 0.7 to 0.8 advanced by Nunnally and Bernstein (1994). Subsequently, the study proceeded with the instrument to the field for the data collection phase.

3.6.4 Credibility and Dependability of Qualitative Research Instruments.

In any given study, Graneheim and Lundman (2004) posit that credibility establishes whether or not the research findings represent plausible information drawn from the participants' original data and is a correct interpretation of the participants' original views. During the research process, Pitney and Parker (2009) advance that it is important to seek support from other professionals who are willing to provide scholarly guidance. During this study, wide consultations were made. Some of the professionals consulted included but were not limited to

members of university academic staff, doctoral students, and research experts both within and without CUEA. Feedback from peers also helped the researcher to improve the quality of the inquiry findings. This implies that during the report writing phase, the researcher presented the findings to peers and independent readers for their comments. Using peers was in consonance with Bitch (2005) who upholds that qualitative studies should seek the perceptions of peers in developing the conclusion of the study.

Furthermore, the researcher adhered to Blaike (2010) by carrying out in-depth interviews for long periods. The longer the interview duration, the more the probing and the more information the participants are likely to share. In this study, each interview was carried out for duration of 45 minutes on average to accord the participants adequate time to express their views freely and add explanations to their voices. Before terminating each interview session, the interviewer read out the field notes to the participants who confirmed them as accurate. In this way, as Cohen, Mannion and Morrison (2011) point out credibility of the findings was enhanced in the study.

A reflective journal was kept to establish confirmability in the study. According to Koch (2006), through a reflective journal, reflective documents can be kept by the researcher in order to reflect on, tentatively interpret, and plan data collection. In this study, the researcher kept a reflective journal on all events that happened from the onset of the study, in the field, personal reflections in relation to the study, such as the 'ah' phenomenon that arises during the entire investigation process. In so doing, the researcher was able to make an assessment of the influence of the investigator's own background, perceptions and interests on the qualitative research process. It also helped in shielding the researcher's personal history and experience with mentoring for knowledge transfer in higher education as a doctoral student.

In order to ensure dependability of the findings, the researcher embarked of an elaborate in-audit trail. An in-audit trail has been described by Anney (2014) as involving the reconstruction of data to synthesize results along themes through interpretations and inferences. Therefore, in this study, *aposterior* themes were accepted alongside the *apriori* themes. Considering that the study used mixed designs, the assertion by Teddlie and Yu (2007) that themes can be predetermined and emerge at the same time was upheld. Through audit trail, the researcher ensured that no useful data was wasted by means of careful review of raw data before summarization.

The researcher also used member checking, to ascertain the accuracy of facts and observations took place, as data collection was segueing into data analysis. According to Bowen (2005), crosschecking helps in maintaining reflexivity by encouraging self-awareness and self-correction. After the initial write-up of the findings from the study, feedback on some of the findings was sought in the field from the participants studied. At least two participants from each target group were asked to confirm the accuracy of the study findings. They were asked to comment on whether the study's interpretations would ring true and meaningful to them. This process provided the researcher with the much desired participant validation of the findings.

3.7 Data Collection Procedures

Upon formal authorization from the Faculty of Education at the Catholic University of Eastern Africa, the researcher embarked on the permission-seeking process. Initially, an introductory letter from CUEA (Appendix XI) was presented to the National Commission for Science, Technology and Innovation (NACOSTI) in a formal online application for the research permit. The issuance of the permit (Appendix XII) helped the researcher to gain the consent of the Ministry of Education, Science and Technology (MOEST) in Kenya.

The researcher then appeared before relevant public administrative authorities in the locale of the study. These included the Nairobi County Commissioner, the Nairobi County Director of Education and the Vice Chancellors of the selected universities. They were all served with the original research permit and research authorization letter (Appendices XII & XIII) for endorsement and copies for their records as is required by NACOSTI. The researcher ensured that all relevant officers and key administrators of the sampled institutions were served with a copy of the research permit at the entry point. Upon entry, the researcher sought clearance from the Vice chancellors of the respective universities (Appendices XIV & XV) before embarking on actual data collection. Afterwards, data was collected by the researcher in person, that is, questionnaires were administered by the researcher in person. Ample time was given to all participants to complete the issued questionnaire before collection later on.

All interviews were conducted only with prior appointment and acceptance between the researcher and the interviewee(s). During the interviews, the researcher strived to establish trusting relationships with participants and maintained an open and non-judgmental manner. Each interview lasted for an average of 45 minutes. This enabled the interviewer to probe the interviewees for in-depth explanations and clarification of their responses.

As proposed by Onwegbuzie and Leech (2007), data collection in mixed designs studies can occur concurrently. In this study, both qualitative and quantitative data were collected from the different groups of participants simultaneously. The simultaneity helped the researcher to gain broader perspective of the mentoring doctoral student phenomenon for knowledge transfer in higher education through the use of different methods of data collection.

3.8 Data Analysis Procedures

Quantitative data analysis was done using both descriptive and inferential statistics electronically while qualitative data was subjected to manual coding, categorization and thematization. Under descriptive statistics, data was presented as means, frequencies and percentages. Inferential statistics on the other hand, was used to compare mean perception (Field, 2009) of students by use of *t*-Test and analysis of variance. Thereafter, all results from the quantitative data analysis were tabulated.

Since this study used concurrent nested triangulation mixed design, the qualitative and quantitative data were mixed during the analysis. Onwegbuzie and Leech (2007) suggest that data mixing in a nested triangulation method should occur at the data analysis phase. This is why the findings from the two phases of the study were integrated into one at the analysis stage. Where necessary, some of the qualitative data yielded by open ended items in the questionnaire were quantified during the analysis process. The process of quantification was made possible by the research design chosen for the study. The less dominant qualitative component of the study was nested in the more dominant quantitative component.

The researcher tested five hypotheses on perception of doctoral students towards mentoring for knowledge transfer in higher education. Out of the five hypotheses, two were tested using the *t*-Test while the rest were tested using Analysis of Variance (ANOVA). The study found *t*-Test appropriate for the first and fourth hypotheses as they sought to establish the differences in mean perception score when doctoral students are categorized by sex and university category respectively. Since sex and university category in this study are binary variables (had two groups each), then *t*-Test, as advanced by Field (2009) was appropriate. On the other hand, the remaining hypotheses tested the mean perception score of students when they

are categorized by year of study and area of specialization. All had more than three groups hence were polychotomous variables (Johns, 2010). Owing to this, the researcher found the use of ANOVA suitable.

Qualitative data was derived from the items in the document analysis guide, interview guides and the open ended questions in the questionnaire. In order to enhance data management, some of the qualitative data was analyzed by way of transforming them into quantitative data before descriptive statistics was used to summarize them. As a means of increasing understanding of the data, the data was coded, then condensed through a rigorous process entailing editing, paraphrasing and summarizing (Gorard, 2012). For the interview excerpts, the researcher searched the interview transcripts for meaningful units before linking them to form themes. The researcher made use of descriptive labels to attach meaning to the various emerging themes from the data. Synthesis was then conducted on the summarized data before interpretation and eventual reporting was done. Coding and transcription were done along both *apriori* and *aposterior* themes. The findings from qualitative data were presented in form of rich narratives and direct verbatim where appropriate.

3.9 Ethical Considerations

In 2011, Simon advanced that research should be designed, reviewed and undertaken in a manner that ensures integrity and quality. The American Psychological Association (APA) developed its Ethics Code for individuals who conduct research, teach, conduct therapy, or serve as administrators (American Psychological Association, 2015). As a result, ethics has become a cornerstone for conducting effective and meaningful research. This implies that the ethical behaviour of individual researchers is under unprecedented scrutiny. In this study, some of the ethical concerns were upheld as discussed in the section that follows.

3.9.1 Proposal Development Phase.

From the onset, this study was developed within the confines of research regulation as stipulated by the Faculty of Education at the Catholic University of Eastern Africa. The due process of developing a concept paper under the guidance of two university supervisors and successfully defending it in a public lecture was followed. Afterwards, the proposal was developed and successfully defended before a panel of examiners as required by the Faculty of Education. Before going for fieldwork, the researcher also adhered to the conventions of the American Psychological Association (APA, 2010) referencing style. The researcher reviewed theories and empirical studies related to the topic in order to ground it in what authorities and other scholars in mentoring and knowledge transfer in higher education have done. All sources of information used herein were duly acknowledged, as explained by APA to avoid plagiarism. The researcher also upheld the CUEA format for dissertations in the Faculty of Education, (FoE).

3.9.2 Data Collection Phase.

Informed consent has been aptly described by Cocks (2006) as a process of three interactions: provision of information by the researcher; the potential participant understanding the information; and then making a response to it. Elsewhere, Alderson and Morrow (2011) add that informed consent entails the invisible act of evaluating information and making a decision, and the visible act of signifying the decision. During field work, the researcher accorded all participants their due respect by seeking their informed consent in so far as their rights and dignity during and after the study were concerned (Appendices IX & X). To avoid bias, the researcher employed probability sampling to accord every member of the target population equal chances of taking part in the study. Additionally, the researcher designed the items in the instruments in such a way that no hard data was collected from any participant.

According to Powell, Fitzgerald Taylor, and Graham (2012), significant ethical dilemmas related to confidentiality are raised in research literature. Privacy considerations in research include both the need to have a safe, private physical location in which the research can take place, and ensuring participants' privacy through anonymity and confidentiality. In this study, pseudonyms were used, in consonance with Hammersley and Traianou (2012), in place of the true names and identities of all participants for purposes of anonymity. For further ethical considerations during this phase, the researcher did not by any means attempt to influence the participants' viewpoints.

3.9.3 Report Writing Phase.

After data collection, the researcher analyzed the data and presented the findings accurately without doctoring any of the gathered information. Pseudonyms were used in place of the participants' actual names and identity. According to Powell *et al.* (2012), anonymity is very important in any study. In this study, anonymity was upheld by reporting qualitative data in participant's voices to bring out their perspectives. In order to enhance credibility, the researcher iteratively coded and analyzed qualitative data from each interviewed participant to contextualize salient themes through location of meaningful units (McMillan, 2008) until saturation was achieved. While writing the final report, the conventions of APA 6th edition and CUEA's Faculty of Education were strictly followed.

A basic ethical principle for qualitative researchers as propagated by Onwegbuzie and Leech (2007) is not to tamper with the natural setting. It means that research should occur as naturally as possible without any manipulation. Simon (2010) points out that although one's personal experiences and cognitive responses cannot be fully set aside when conducting research, ethnography and phenomenology designs require bracketing. In this study, bracketing

was done throughout the research process, and especially during data processing. According to Anney (2014), bracketing requires the researchers to explore their own assumptions and preconceptions in order to set them aside and keep them in suspension rather than conceal them so that they do not interfere with the information given by the participants. Through bracketing, the researcher remained neutral with respect to the study topic. Bracketing enabled the researcher to create distance from the beliefs and/or disbeliefs in the phenomenon of mentoring doctoral students for knowledge transfer in higher education and assuming the role of a non-participating observer. The researcher achieved bracketing by first identifying any ideas about mentoring doctoral students. Next, any knowledge the researcher might have had about the Kenyan experience of mentoring was suspended to prevent this information from interfering with the recovery of a pure description of mentoring. This allowed "truth" to show itself and enhance the trustworthiness of the results.

When all has been said and done, publishing still remains an integral part of the overall research process. Publication becomes an ethical obligation especially considering the assertion by Ary, Jacobs and Razarvieh (2010) that every research investigation is undertaken to answer a question of presumed importance. This assertion implies that the research process is not completed until the results are interpreted in relation to the question that closes the loop. In order to make the findings of this study public, a published research report describing the closed loop in the form of an article in a professional journal will be made to basically avail the work for public scrutiny by the scientific community. This public scrutiny will help to enhance the study's objectivity hence publishing is an important ethical component of this study.

CHAPTER FOUR

PRESENTATION, DISCUSSION AND INTERPRETATION OF FINDINGS

4.1 Introduction

The aim of this study was to investigate mentoring doctoral students for knowledge transfer in higher education through comparison of a public and a private university in Kenya. In this chapter, the study findings have been presented, discussed and interpreted. The chapter organization begins with a brief description of the questionnaire return rate before background information of the study participants. The section that follows the background information has been organized according to the research questions that guided the study.

Out of the 192 questionnaires that were distributed to doctoral students, 172 were duly completed and returned. This represents a return rate of 90%. There were 30 questionnaires for supervisors and 18 chairmen of departments and 25 and 13 were returned respectively. The return rate for the supervisors and chairmen was 87% and 72% respectively. In total, 240 sets of questionnaires were distributed and 210 were returned. This figure is equivalent to 88% return rate. The high return rate was made possible by the fact that the researcher distributed the questionnaire face to face to all the participants in person. Additionally, the participants were accorded adequate time to complete the questionnaire before collection.

The researcher set out to conduct ten interviews with key informants in the two universities. Out of the ten, one participant was out of reach over the entire period of data collection while another one declined to be interviewed. Owing to this, eight interviews were successfully carried out. Those interviewed comprised of one DVC, Academic Affairs, two Directors Boards of Postgraduate Studies, and five Faculty Deans. In order to sustain anonymity of the key informants, the researcher assigned them codes. The codes denote the name of the

university and designation followed by gender then the order of interview internally and finally the order of interview generally. For example, DS/F/3/7 shows that the interviewee was Dean Faculty of Science (DS), and was female (F). This represents the third interview within public University (3) but the seventh overall (7) at the time it was conducted. The researcher declares that the codes used were imaginary pseudonyms and had nothing whatsoever to do with the real names or identities of the interviewees.

4.2 Background Information of the Participants

The researcher sought to determine the background information of the participants in order to identify those participating in the study. Additionally, in this study, the background information yielded data that the researcher used for data analysis during the hypotheses testing. With this in view, the study requested its participants to indicate certain aspects of their background characteristics in their respective instruments. Doctoral students were asked to indicate their sex, year of study, age, type of university, and area of specialization. On their part, supervisors and chairmen of departments indicated how long they had been mentoring their highest academic qualification and designation in addition to their sex, faculty and type of university.

4.2.1 Background Information of Doctoral Students.

In order to determine the demographic characteristics of doctoral students who participated in the study, they were asked to indicate their gender, university type, faculty, age category and year of study. Their responses were as indicated in Table 4.

Table 4

Background Information of Doctoral Students

Item	Frequency	Percent
Gender		
Male	97	56.4
Female	75	44.6
Total	**172**	**100.0**
Category of University		
Public	88	51.2
Private	84	48.8
Total	**172**	**100.0**
Faculty		
Education	58	33.8
Arts	57	33.1
Commerce	57	33.1
Total	**172**	**100.0**
Age Category		
21-30 years	18	10.5
31-40 years	37	21.5
41-50 years	71	41.3
51-60 years	36	20.9
61-70 years	10	5.8
Total	**172**	**100.0**
Year of Study		
First	38	22.1
Second	60	34.9
Third	45	26.2
Fourth	16	9.3
Fifth	9	5.2
More than fifth year	4	2.3
Total	**172**	**100.0**

The findings in Table 4 indicate that 56% of the doctoral students who participated in the study were male while the remaining 44% were female. Accordingly, the findings show that there were more male doctoral students that their female counterparts in the study. These findings point out to the fact that there are more male doctoral students enrolled in the sampled universities. This is in tandem with the CUE (2014) which showed that the enrolment rates are still higher for males than female in the Kenyan higher education sector. The results indicate that there are more men who are pursuing doctoral studies. This can be attributed to the factors such as enrolment rates at undergraduate levels in the past years which have always shown that more

males access university education than females. Subsequently, it is expected that advancement to doctoral studies, the epitome of higher education, would reflect the trend in lower levels.

Mentoring has been described as being discipline-specific hence the researcher included doctoral student participants from three disciplines. Table 4 shows that 34% of the doctoral students who participated in the study were drawn from the faculty of education while the faculties of arts and business both had 33% of the doctoral students each. The study findings show that the representation from each faculty was averagely equal. This could have been due to the fact that the study conducted probability sampling. Through the sampling technique employed, the study ensured that each faculty was given equal chances of participating in the study. Again, the findings in Table 4 show that among the doctoral students who participated in the study, 11% were aged between 21-30 years, 22% were aged between 31-40 years and 41% were aged between 41-50 years. Another 21% were aged between 51-60 years while the remaining 5% were aged 61-70 years.

Finally, Table 4 illustrates that 22% of the doctoral students who participated in the study were first years, 35% were second years, 26% were third years, 10% were fourth years, and less that 10% were in their fifth years of study and beyond. The findings show that 84% of the doctoral students who participated in the study were within the first three years of their study while the other 16% were in their forth years of study and beyond. Since the doctorate degree programme is normally designed to take at least three years in most disciplines in Kenya, (CUE, 2014), this accounts for these findings. However, this notwithstanding, it is important to note that the doctoral programme can extend beyond the three years by one year. This implies that getting doctoral students in their fourth year is not an anomaly. Of course cases of delayed completion cannot be overlooked especially in the doctoral programme where individuals bring with them a

mirage of setbacks such as demands at workplace, family issues, financial constraints and scholarship in general (Johnson, 2007). These factors could account for the minority two percent who participated in the study.

4.2.2 Background Information of Supervisors.

Supervisors play a very crucial role in the life of the doctoral students in as far as their research and dissertation writing is concerned. The study sought to determine the gender, university category, faculty, experience in mentoring doctoral students, highest academic qualification and designation of the supervisors. To get data on these variables, the researcher requested the supervisors to respond to items related to their background in their questionnaire. Their responses are as presented in Table 5.

Table 5

Background Information of Supervisors

Item	Frequency	Percent
Gender		
Male	18	72.0
Female	7	28.0
Total	**25**	**100.0**
University Category		
Public	12	48.0
Private	13	52.0
Total	**25**	**100.0**
Faculty		
Education	10	40.0
Arts	10	40.0
Commerce	5	20.0
Total	**25**	**100.0**
Experience in mentoring PhD students		
Below 10 years	18	72.0
10-19 years	3	12.0
20-29 years	3	12.0
30 years and more	1	4.0
Total	**25**	**100.0**
Highest academic qualification		
PhD	25	100.0
Masters	0	0.0
Total	**25**	**100.0**
Designation		
Lecturer	6	24.0
Senior Lecturer	13	52.0
Professor	6	24.0
Total	**25**	**100.0**

According to the findings in Table 5, 72% of the supervisors who participated in this study were male and 28% were female. These findings imply that there were more male supervisors in the selected universities as compared to their female counterparts. Again, these findings are in harmony with CUE (2013) which shows that as the academic ladder advances upwards, there are fewer and fewer females having access. As a result, we see here that there is

gender disparity in the teaching profession at the level of higher education in the two universities where the study was conducted.

Findings on the university category of the supervisors who took part in this study showed that 52% belonged to the public University while 48% were from the private University. This study sampled equal number of participants from each university. This is why there was a very close range of supervisor participants as presented in Table 5. However, due to variations emanating from return rates, the slight difference was manifested. During the data collection exercise, some supervisor participants changed their minds and withdrew from the study with others failing to respond to the questionnaire due to other duties. These factors explain the variations in the number of supervisors from the two universities.

When the supervisor participants in this study were categorized by faculty, Table 5 shows that the faculties of education and arts both had 40% each while the remaining 20% were in the Faculty of Commerce. The findings show that faculties of Education and Arts had more supervisor participants that the Faculty of Commerce. In one of the sampled universities, the Faculty of Arts was the largest followed by the faculty of while in the other university, the Faculty of Education was the largest. This phenomenon explains why the findings in Table 5 portray that the two faculties had the highest supervisor participant representation in the study.

Table 5 also shows that 68% of the supervisors who took part in the study had mentored doctoral students for a period of less than 10 years and 12% had done so for between 10-19 years. Another 12% had experience with the doctoral students for a period of between 20-29 years while the remaining 4% had accumulated experience in mentoring doctoral students for a period of 30 years and more. These findings imply that the supervisors who participated in this study had some level of accumulated experience in mentoring doctoral students. This implies

that they were better placed to share vital information required by the study in as far as mentoring doctoral students for knowledge transfer in higher education is concerned. Therefore, their participation in this study was justified.

The social exchange theory describes mentoring as a relationship where more experience and knowledge is a prerequisite for the mentors to facilitate advancement of careers of the mentees (Johnson, 2007). Owing to this, this study found it imperative to establish the highest academic qualification of the supervisors who mentored the doctoral students. The study, according to the findings in Table 5, established that all supervisor participants in this study had doctorate qualification. This shows that 100% of the supervisors had the doctorate as their highest academic qualification. In essence, this implies that all the supervisors were qualified to mentor doctoral students for knowledge transfer in higher education. This in accordance to the requirements set by the Universities Act (2014) which stipulates that all individuals teaching in universities should have doctorate qualification.

Out of the supervisors who participated in this study, 24% were lecturers, 52% were senior lecturers and another 24% were professors. According to these findings, over 75% of the supervisors sampled were designated senior lecturers and professors. The findings confirm (Wesangula, 2014) who pointed out that Kenya has a shortage of professors. The shortage in the number of professors may point to there is inadequate mentoring as the few who are there could be overstretched in terms of their workload. The number of professors in a university is significant as it reflects the ability of the institution to offer high quality education and leadership in research.

4.2.3 Background Information of Chairmen of Departments.

The chairmen of departments are key players in the overall academic life of any student admitted for study in their department. Owing to this, it was vital to include them among the study participants. In order to establish the background information of the chairmen of departments, they were asked to indicate information pertaining to their gender, type of university, highest academic qualification, and designation in a questionnaire. Their responses were as summarized in Table 6.

Table 6

Background Information of Chairmen of Departments

Item	Frequency	Percent
Gender		
Male	10	76.9
Female	3	23.1
Total	**13**	**100.0**
University Category		
Public	7	53.8
Private	6	46.2
Total	**13**	**100.0**
Faculty		
Education	4	30.8
Arts	5	38.4
Commerce	4	30.8
Total	**13**	**100.0**
Years of Experience as Chairman of Department		
Below 3 years	3	23.1
3-6 Years	10	76.9
Total	**13**	**100.0**
Doctoral Students in Department		
Below 30 Students	8	61.5
30-49 Students	3	23.1
50-69 Students	2	15.4
70 Students and More	0	0.0
Total	**13**	**100.0**
Supervisors Mentoring Doctoral Students in Department		
Less than 10 Lecturers	9	69.2
10-19 Lecturers	2	15.4
More than 20 Lecturers	2	15.4
Total	**13**	**100.0**

Table 6 indicates that 77% of the chairmen of departments who took part in this study were male with only 23% being female. The findings show that most of the chairmen of departments in the sampled universities were male and a minority being female. Following the findings in the earlier sections of this chapter which indicated that there were fewer females among the doctoral students as well as supervisors, it is natural that the same phenomenon is repeated among the chairmen of departments.

The findings in Table 6 show that 54% of the chairmen of departments in this study were from public University while 46% were from private University. The findings show that there was a slight difference in participation by chairmen of departments in the selected universities. Again, these findings are a result of the fact that the sampling was done to ensure equal representation from both universities. However, the slight difference in the percentage of chairmen of departments from the public and private university is due to cases of withdrawal and absenteeism by some of them.

In terms of faculty, the findings in Table 6 show that 40% of the chairmen of department participants in this study belonged to the Faculty of Arts. The faculties of Education and Commerce had 30% each. The findings imply that there was a higher representation of the Faculty of Arts in the study than the other two faculties. This can be attributed to the fact that the Faculty of Arts was the largest in the public University.

According to the findings presented in Table 6, 77% of the chairmen of departments who participated in this study had been in that position for less than three years. On the other hand, 23% of the chairmen of departments had served in that position for three years and more. The findings imply that most of the chairmen of departments were in their first term of office. Again, the findings imply that none of the chairmen of departments were serving within the policy

provision of their respective universities. This is because none of them had served in the same position for over six years. Being chairman of a department is an administrative position that comes in the form of a three year term (CUEA, 2005; UoN, 2015). The term is renewable only once and implies that one cannot be chairman of a department for a period of over 6 years.

Again, Table 6 shows that 62% of the chairmen of departments who took part in this study indicated that their departments had less than 30 doctoral students. Twenty three percent had doctoral students between 30-49 doctoral students while 15% had 50 doctoral students and more. These study findings imply that there are low numbers of doctoral students in the selected universities. This can be attributed to the fact that besides being a very costly programme financially, the doctoral programme is also very demanding thus attracting only a few individuals to register as students.

Out of the chairmen of department participants in this study, 70% had less than 10 lecturers in their departments who handled doctoral students, 15% had lecturers between 10 and 19 and another 15% had 20 lecturers and more in their departments who dealt with doctoral students. The findings show that most departments offering doctoral programmes had less than 20 lecturers who could supervise the doctoral students. This implies that there is understaffing in most of the departments which were involved in this study. Additionally, these findings echo (CUE, 2013) that there is an acute shortage of lecturers in Kenyan universities.

4.2.4 Background Information of Deans, Directors and Deputy Vice Chancellors.

The study sought to determine the background information of deans, directors of boards of postgraduate studies and the deputy vice chancellors academic affairs. At the time of this study, all the key informants were holding academic administrative and management positions in the selected universities. The key informants comprised of the Faculty Deans of the selected

Faculties, the Directors of the Boards Postgraduate Studies, and the DVCs, Academic Affairs in the selected universities. During the data collection phase, 8 out of the intended 10 interviews were successfully conducted. Table 7 presents the background information of the Faculty Deans, Directors of SPGS, and the deputy vice chancellor participated in the study.

Table 7

Background Information of Deans, Directors and Deputy Vice Chancellors

Item	Frequency	Percent
Gender		
Male	6	75.0
Female	2	25.0
Total	**8**	**100.0**
University Category		
Public	4	50.0
Private	4	50.0
Total	**8**	**100.0**
Years of Experience		
Below 5 years	0	0.0
5-9 years	1	12.5
10-14 years	1	12.5
15-19 Years	1	12.5
20 years and more	5	62.5
Total	**8**	**100.0**

Out of the 8 key informants, 7 were male while 2 were female. This, as shown in Table 6, translates into 75% of the interviewees being male against the remaining 25% who were female. Considering that all the key informants were in administrative positions, these findings imply that in the selected public and private university, there were more men than women holding administrative positions. This can be attributed to the fact that there are more males who access higher education than females. Since all key informants in this study were holders of academic administrative positions, it means that there were more males who qualified or were employed as lecturers in higher education than females.

Being a comparative study of a public and a private university, participants were selected in a ratio of 1:1 from each institution. Due to this, the study was designed to conduct five interviews in each university. However, during field work, some of one key informant in the public University could not be reached while in the private University, one key informant out rightly declined to be interviewed. Adhering to the research code of ethics, the participants could not be coerced into participating in the study against their free will. This accounts for the 50% representation from public and private universities as shown in Table 7.

Less than half of the key informants who participated in this study had served in higher education for a period of less than 20 years with over 60% having accumulated a work experience of 20 years and more in higher education. Table 7 shows that there was no one among the selected key informants had served in their administrative for below 5 years. This implies that all the key informants had the necessary experience in teaching in higher education and therefore stood a better chance of providing the key information on mentoring doctoral students for knowledge transfer in higher education. During the interview, one of the administrators while referring to the years of experience pointed out that:

> I have a wealth of experience of over twenty years in teaching and research in higher education. Many of my students are now professors as part of and testimony to my many years of accumulated experience in the field of academics. It is a fulfilling experience which cannot be quantified especially when I see how successful my own students have become over the years. It is a legacy (DB/M/1/1: 21, September, 2015).

From the interview excerpt with the administrator, it shows that there are success stories in as far as mentoring doctoral students for knowledge transfer is concerned. This is contrary to the notion that doctoral students are not mentored due to lack of experience among lecturers

(Wesangula, 2014). It implies that the key informants who took part in this study were educationally advanced. It is likely that the wealth of experience that they have could make them more concerned about issues relating to mentoring doctoral students for knowledge transfer in higher education. They can do so by ensuring that research, publications and networking are given prominence in the university.

4.3 Forms of Mentoring Doctoral Students for Knowledge Transfer

Mentoring exists in many forms which may be defined by the origin, purpose, nature or site of the mentoring relationship. In an attempt to investigate the forms that may be at the disposal of doctoral students for knowledge transfer, the researcher asked the participants to respond to a set of items. The various responses were as presented below.

4.3.1 Participants' understanding of the Term Mentoring.

Mentoring can hold a range of meanings and reveal a diverse set of underlying assumptions (Wright & Schram, 2010). While acknowledging the complex nature of mentoring as a concept, the researcher sought to get views from the key informants during the interviews on their take in as far as mentoring is concerned. Interestingly, the study drew as many perspectives to mentoring as the interviewees were. Below is one of the power quotes on what mentoring is from an interview with one of the senior administrators.

> Mentoring is a vehicle for socializing with students. To me, this is very vital in my practice as an administrator and educator. This is particularly so considering that I have grown up with similar issues. I have walked the path before, I have faced similar challenges and dilemmas facing my students today. I am better placed to address them or still help my students overcome their academic, professional and personal issues as I did several years back. Mentoring is the means to do so (VA/M/4/8: 10, December, 2015).

According to the power quote above, the particular administrator seems to assert the fact that having received mentoring, one must also give back. The quote brings out the nature of ripple effect that mentoring can have to ensure knowledge transfer in higher education. It shows that the Faculty who are mentored often have a strong desire to mentor others in the future and continue the beneficial circle. The underlying assumption in this interviewee's response is that knowledge, skills and dispositions can be acquired through socialization. This implies that university administrator could rely on mentoring doctoral students to sustain knowledge flow to future academic generations. The findings agree with Chika and Nkechi (2011) who advanced that mentoring can be used to unlock the students' potential at the university level.

In another interview, one administrator described the concept thus, "Mentoring is preparing somebody for a transition into a career". Further still, another administrator described the concept as "accompanying a student with reciprocal sharing from entry (admission) to the final exit (graduation) point". Elsewhere, another administrator, added the aspect of role modeling onto the sea of definitions saying: "Mentoring is the process of walking with somebody throughout their life cycle in the university while guiding them to correct material and supervising them by setting good examples". These responses seem to echo that lecturers are expected to assist doctoral students to produce new ideas and scholarly insight within the mentoring relationship to sustain knowledge transfer in higher education (CET, 2013). The definitions of mentoring point to the fact that mentoring provides the lecturers with platform on which to offer support to upcoming scholars or professionals within the higher educational arena.

Although many scholars have attempted to harmonize and standardize mentoring as a concept, this study established through the in-depth interviews that the concept is multifaceted. For example, in this interview output, one administrator said:

> Mentoring deals with two to three components: academic direction, preparing mentee for professional growth and the social component which entails counseling. As a matter of fact, we as a school make referrals of our doctoral students to the counseling division especially on matters that are non-academic (DE/M/1/5: 2, November, 2015).

From the interview quote from the administrator, mentoring doctoral students entails paying close attention to their academic and psychosocial wellbeing at the same time. This implies that if knowledge transfer is going to be realized in higher education, then the doctoral students require a holistic approach to mentoring. The findings advance those found in the USA, (Minnix, 2013), which showed that preparation of doctoral students should foster the holistic growth and development of the doctoral students. This implies that mentoring doctoral students ought to go beyond a mere knowledge acquisition to knowledge creation, sharing and eventual knowledge transfer.

In another interview, another administrator pointed out the following.

> I would say that mentoring encompasses academic issues involving nurturing genuine concern beyond academic matters. It calls us as administrators to help students cope with their academic expectations and strike a rapport with them without too much protocol. Sometimes, it calls for sharing a cup of tea or coffee (DA/F/3/7: 4, November, 2015).

The quote indicates that apart from being multifaceted, mentoring also serves an array of benefits. The findings signal a transitional function of mentoring as advanced by Levinson (1978), a development function as advanced by Johnson (2007) and a developmental process. Monk *et al* (2010) point out that mentoring nurtures talent beyond the profession and Clutterbuck's (2001) points out that it is apprentice in nature. From all the diverse descriptions of the concept mentoring, the researcher coined another description to serve as a working

description of the concept. Within the confines of this study, mentoring refers to all the academic and non-academic activities between the doctoral student and a lecturer aimed at strengthening the personal, professional and academic progression of both parties.

4.3.2 Awareness on Availability of Mentoring Programme.

This study sought to determine if the selected universities had any specific programmes for mentoring doctoral students. A related item was developed in the questionnaire for the doctoral students who participated in this study. Their responses were cross tabulated with their university type and were as presented in Table 8.

Table 8

Awareness on availability of Mentoring Programmes by Doctoral Students

	Does your university have any specific programmes for mentoring doctoral students			
University Name	**Yes**	**No**	**No idea**	**Total**
Public University	47	22	31	**90**
Private University	41	26	22	**82**
Total	**44**	**24**	**32**	**172**

The results of cross tabulation shown in Table 8, 47% and 41% of the doctoral students from the public University and the private University respectively indicated that their university had specific mentoring programmes for doctoral students. Although a programme may not exist, mentoring doctoral students was taking place in the universities as indicated in Table 8. The findings seem to agree with Budge (2006) that despite mentoring being proclaimed as an excellent source of guidance, programmes in higher education still have a long way to go before the value of mentoring can be understood.

According to the findings from the document analysis guide, both universities where this study was carried out had mentoring programmes for their doctoral programmes. However, the

findings in Table 8 could imply that the mentoring programmes for doctoral students who took part in this study were either not actively promoted by the universities or they were not active. In the light of the social exchange theory, either of the two parties is not goal-oriented to compete freely (Law, 2009) in their social setting. If mentoring doctoral students is to be relied upon to ensure knowledge transfer in higher education, then the absence of awareness could imply that there is deficiency in knowledge transfer within the circles of higher education. This leads to the need to determine what type of mentoring programmes were availed by supervisors to the doctoral students in the selected universities.

4.3.3 Forms of Mentoring Offered to Doctoral Students.

In order to get responses to the nature of mentoring that is availed to the doctoral students in the selected universities, the researcher asked supervisors to respond to one item in their questionnaire that touched on that. In Table 9, the responses given to the closed ended item have been presented.

Table 9

Forms of Mentoring Programmes offered to Doctoral Students by Supervisors

	What type of mentoring do you give doctoral students? (%)			
University Category	**Formal**	**Informal**	**Both types**	**Total**
Public	0.00	4.00	44.00	**48.00**
Private	4.00	4.00	44.00	**52.00**
Total	**4.00**	**8.00**	**88.00**	**100.00**

The historical use of both formal and informal mentoring programmes in higher education has been around for some time (Russell, 1991) as depicted by the findings in Table 9. According to the findings, most of the lecturers from both universities were giving their doctoral students both formal and informal mentorship. This implies that irrespective of the university

category, both formal and informal mentoring are the most commonly offered. This practice can be attributed to the nature of mentoring which makes it even harder to demarcate between its two forms. These findings allude to Harris' (2002) position that both formal and informal mentoring programmes exist within the university context. The findings also echo those presented earlier in a section of this study which indicated that mentoring encompasses several components and can range from the formal academic guidance to informal sharing over a cup of tea or coffee.

From qualitative data, one of the major themes that emerged was types of mentoring under which the sub-theme of informal mentoring and job recommendation belonged. Another interviewee was particularly passionate about this aspect and went further to highlight that:

> Elsewhere, doctoral students are expected to secure jobs before they can be allowed to graduate. This is particularly important bearing in mind that no school wants to sustain a pool of unemployed graduates. What we do or are expected to do as good educators is to recommend our doctoral student mentees for any available opportunities for employment. (DB/M/1/1: 21, September, 2015).

The finding indicates that a mentoring relationship involving a doctoral student may extend beyond the completion of the PhD programme to other engagements such as job recommendation, networking and co-authorship. This is similar to the separation phase in the stage theory (Kram, 1985). It is worth noting that any engagement with the doctoral student after graduation is informal. However, beneath each such relationship is the silver lining of knowledge transfer. The implied is that informal mentoring facilitates knowledge transfer in higher education irrespective of the stage at which the mentoring relationship has reached.

Similar sentiments were shared by another administrator. The administrator explained that other than just recommending their doctoral students for jobs outside, as a university, they embarked on a very intensive retention programme. In the exact words of the administrator:

> Our retention strategies include the fact that the doctoral programme is a staff development programme. Although this aspect may apply only to our staff, all our doctoral students are encouraged to apply and are recommended by their supervisors. Successful and very "good" doctoral students are usually considered. This is very important to us because it is also how we identify our prospective staff. We go after quality to ensure quality (DA/F/3/7: 4, November, 2015).

This power quote from the administrator shows that formal and informal contact between the veteran lecturers and newly graduated PhD doctoral student is very important for knowledge transfer in higher education. The finding agrees with Scandura (1998) who advanced that under the final stage of Kram's (1985) stage theory, the mentor should continue giving mutual support to their mentees through informal contact. The continued support puts the mentees on a redefining pedestal to acknowledge the posterity duty of mentoring so that they can also start giving back to other students what they received. In this way, the mentoring cycle is sustained while knowledge transfer is also guaranteed in higher education.

The ethics of reciprocity in the social exchange theory are defined by contextual factors such as the type of university, university policies, student characteristics and university infrastructure (Shore, et al., 2008). While acknowledging that mentoring is context-specific, an administrator said that:

> I must admit that we are very keen on retaining and hiring our best students. We tend not to give very serious attention to first class holders from elsewhere because there are

> instances when those from outside have failed us totally. We rely on our lecturers/supervisors to recommend or forward our best students even when they are still in session (VA/M/4/8: 10, December, 2015).

This finding shows that informal mentoring overlaps with formal mentoring through activities such as retention of the best students. It implies that SET was a suitable framework for higher education context to explore mentoring doctoral students for knowledge transfer in higher education through a mixed methods design. Mentoring doctoral students raises the socialization aspect as one in which mentoring can contribute towards knowledge transfer in higher education.

One point that emerges from these interview findings is that in both universities, both formal and informal forms of mentoring are infused. These findings are in line with those found by Budge (2006) which showed that both formal and informal mentoring were prominent in both universities. The implication could be that mentoring, whether formal or informal has potential to foster knowledge transfer in higher education. However, the findings seem to contradict the assertion by Sabatelli (2003) that the social exchange theory which upholds that a given form of mentoring is always context-bound. The findings could also be pointing out to the fact that context is a peripheral factor in as far as mentoring doctoral students for knowledge transfer in higher education is concerned.

The findings from quantitative and qualitative findings converged. The convergence of the findings from the interviews resonates with the fact that mentoring doctoral students in the selected universities is a two-fold exercise: both formal and informal. According to Horowitz and Christopher (2013), mentoring doctoral students, contribute a great deal to the completion and success of future educational pursuit through the quality graduates that are produced. Taking into consideration the social exchange theory's principle of reciprocity (Shore et al., 2008), these

findings bring out the importance of the two forms of mentoring complementing each other. The strengths of the formal enrich the weaknesses of the informal and vice versa. The result is a strong mentoring programme that can sustain knowledge transfer in higher education. These findings would imply that mentoring doctoral students cannot be narrowed down to one form as this may impede knowledge transfer in higher education.

There is a very thin line between the formal and informal mentoring hence one cannot offer one form strictly as was observed by one of administrators during the interview. The excerpt that follows contains what the administrator said about the two forms of mentoring.

> From my experience in teaching in higher education, I know how tight one's programme can be especially when it comes to finding time to give quality time and attention to the students. Owing to this, I usually prefer to avail myself to my doctoral students informally through phone calls, stoppages outside the office and ad hoc consultations in the office. This is the only way to be available to them. It works for me (DB/M/1/1: 21, September, 2015).

According to these findings, the formal forms of mentoring and the formal are instrumental in the mentoring of doctoral students for knowledge transfer in higher education. Having established that mentoring doctoral students for knowledge transfer entailed both formal and informal strains, the researcher advanced to determine the ways in which these forms of mentoring are channeled to the doctoral students. The findings were as presented in the section that follows.

4.4 Strategies for Mentoring Doctoral Students for Knowledge Transfer

Mentoring relationships are inherently individual and two relationships are unlikely to use the same process. However, as Yob and Crawford (2012) noted, mentoring relationships

have certain features common to most relationships. Due to this, the study sought to investigate how mentoring doctoral students for knowledge transfer in higher education is done. In order to get responses to this research question, all participants in the study were asked to indicate how many times they had been engaged in seven predetermined strategies. The researcher synthesized seven core categories that emerged to be frequently used as the strategies. These are: goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision. The findings from quantitative data have been cross tabulated for all the three groups in order to make a comparison between the public University and the private University. Findings from the qualitative data have been embedded into the quantitative data in order to sustain the study's research design. Both quantitative and qualitative data was generated for this section. The responses were as presented in the subsequent sub-sections.

4.4.1 Goal Setting.

Goal setting is among the key principles of the social exchange theory. Knowledge in itself has no worth but the strategic use of knowledge is what enables organizations such as universities to achieve and even surpass their goals (Takwe & Sagsan, 2011). In this study, the doctoral students, supervisors and departmental chairmen were asked to indicate the number of times they had engaged in goal setting. The responses were as shown in Table 10.

Table 10

Doctoral Students, Supervisors and Chairmen use of Goal setting as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you set goals during the previous semester?						
Doctoral students	**Never**	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Public University	14.5	18.0	8.1	0.5	3.5	7.6	**51.2**
Private University	13.9	8.7	9.3	1.2	4.1	10.5	**48.8**
Total	**28.4**	**26.7**	**17.4**	**1.7**	**7.6**	**18.1**	**100**
Supervisors							
Public University	4.0	8.0	12.0	0.0	8.0	4.0	**48.0**
Private University	8.0	32.0	4.0	4.0	8.0	8.0	**52.0**
Total	**12.0**	**40.0**	**16.0**	**4.0**	**16.0**	**12.0**	**100.0**
Chairmen							
Public University	23.0	15.3	7.7	0.00	0.0	7.7	**53.8**
Private University	7.7	7.7	0.0	7.7	23.0	0.0	**46.2**
Total	**30.7**	**23.0**	**7.7**	**7.7**	**23.0**	**7.7**	**100.0**

Goal setting is a worthwhile endeavour in the whole process of acquiring proper knowledge. For this acquired knowledge to be transferred, one has to set some goals. The findings in Table 10 show that among the doctoral students who took part in this study, those who had not set goals were very minimal as shown. Looking at the column for those who had never set any goals, it shows that the difference between the two universities is very minimal. The aspects of goal setting captured by this study included academic targets, career aspirations and personal aspiration. This implies that majority of the doctoral students who took part in this study had been mentored on goal setting. The findings on show that the doctoral students who took part in this study were goal oriented (Law, 2009). However, the findings seem to disagree with Horowitz and Christopher (2013) who contended that most doctoral students are rarely encouraged to pause and reflect. Guiding doctoral students on goal setting can be a window for them to do the necessary reflection.

During the interviews, one of the administrators pointed out that,

> The doctoral degrees we are offering today are not very intense in relation to those in the past. For instance, most doctoral students have no serious academic goals for pursuing the programme other than to get promotion and salary increment at their workplace. They are very busy professionals who lack time to set clear goals. This is not how it should be (VA/M/4/8: 10, December, 2015).

According to this administrator, goal setting is one of the major strategies that can be relied upon to strengthen the doctoral programme. Unfortunately, the administrator goes further to point out that the doctoral students are no longer interested in goal setting, a factor that the administrator feels is threatening the future the higher education.

Table 10 also shows that there were fewer supervisors who had not used goal setting as a strategy to mentor their doctoral students when compared to the majority who had done so. Again, just as the doctoral students, the findings show that the disparity between the public and private universities is not so large. This implies that supervisors who took part in this study from the two universities took their doctoral students through goal setting. These findings point to the fact that goal setting is a mentoring strategy used to promote knowledge transfer within the universities where this study took place. The findings advance the social exchange theory (Homans, 1961) as they show that there are exchanges of ideas and information between the doctoral students and supervisors as well as the chairmen. In so doing, this study establishes that goal setting is among the strategies that are used to mentor doctoral students for knowledge transfer in the sampled universities.

4.4.2 Social Interaction.

The social interaction components of the SET propagate for meaningful interactions between the mentor and the mentee (Sell, 2008). The second thematic area under the strategies

was social interaction. By social interaction, the researcher sought to find out from the doctoral students, supervisors and chairmen how often they had employed the strategy during the previous semester. The responses from the doctoral students, supervisors and chairmen were as presented in Table 11.

Table 11

Doctoral Students, Supervisors and Chairmen use of Social Interaction as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you use social interaction during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	13.4	13.4	11.6	3.5	2.9	7.6	**52.3**
Private University	9.9	10.4	6.4	2.3	6.4	12.2	**47.7**
Total	**23.3**	**23.8**	**18.0**	**5.8**	**9.3**	**19.8**	**100.0**
Supervisors							
Public University	8.0	12.0	12.0	0.0	12.0	4.0	**48.0**
Private University	8.0	8.0	20.0	0.0	8.0	8.0	**52.0**
Total	**16.0**	**20.0**	**32.0**	**0.0**	**20.0**	**12.0**	**100.0**
Chairmen							
Public University	15.4	15.4	0.0	0.0	7.7	15.4	**53.8**
Private University	7.7	0.0	7.7	7.7	23.0	0.0	**46.2**
Total	**23.0**	**15.4**	**7.7**	**7.7**	**30.7**	**15.4**	**100.0**

According to the findings in Table 11, there were more doctoral students in public University who had been mentored via socialization than there were in private University. This shows that the use of social interaction as a mentoring strategy was not uniform in the two universities that took part in this study. If doctoral students who participated in this study received less guidance on social interaction, then chances are that they were missing out in having their knowledge transfer behaviours reinforced by their supervisors. Although these findings disagree with Seekoe (2014) that mentors and mentees are always in an interactive participatory relationship, they seem to resonate with Wright and Schram (2010) who posited

that social interactions should play a role in supporting the mentor-mentee relationship. Since one of the universities was public and one private, these findings show that there is a disparity in how social interaction is used as a mentoring strategy to transfer knowledge in the private universities where this study was conducted.

One of the interviewees said the following:

> We have very few lecturers who qualify to handle the doctoral programme...we try to make up for this shortage by outsourcing part time staff but still... I must add that part time staff cannot give our doctoral students the much needed quality time due to many factors. Some of these include limited time, lack of space and huge workload (DB/M/1/1: 21, September, 2015).

The administrator's view in the above quote shows that social interaction as a strategy for mentoring doctoral students in higher education was not popular. These findings illustrate why Chumba and Kiprop (2014) indicated that most students at the university level were unable to deal with cultural and ethnic diversity issues. The implication is that networking, personal sharing and consultation were not emphasized for mentoring doctoral students for knowledge transfer in the universities that were included in this study.

In another interview, another administrator added that, the lack of physical space for visiting professors remained their greatest challenge. The social exchange theory purports that interpersonal interaction in the mentoring relationship enables the mentor and mentee to conduct activities and exchange valuable resources (Jinyang, 2015) but this study's findings show otherwise. Knowledge is among the valuable resources that should be shared with ease in any University if the tripartite mission of the university is going to be adhered to. It is important for the doctoral students to have someone who can help them develop professional networks in order

to secure a position at the next academic level upon completion of studies. When the doctoral student has limited opportunity to network and consult, then the process of knowledge transfer in this case is tampered with. The benefits of knowledge transfer in higher education which would be brought about by engaging in social interactions are lost.

Under social interaction, role modeling of appropriate faculty member attitudes, values and behaviour was another theme that emerged from qualitative data. The interviews showed that most students would like to emulate and learn the ropes of their future professional practice from the veteran lecturers. In order for the doctoral students to be initiated into the knowledge transfer proper, they need to be served with adequate role models. However, one administrator was quick to point out to the fact that the role modeling should be done cautiously in order to bring out the real identity of the upcoming professional. This is in tandem with Nocolae and Vitlar (2013) who optimized that role modeling is among the major mentoring strategies. The findings imply that knowledge can be transferred to the doctoral students even through informal means. It means that informal mentoring strategies such as role modeling were used to transfer knowledge in the two universities.

4.4.3 Teamwork.

As the doctors accompany their expectant patients up to the successful delivery, so should mentors hold the hands of their doctoral students and show them the rules of the game as future practitioners in higher education. Although Delamont *et al.*, (2005) caution that the mentor and the mentee are never on the same plane in the hierarchy of mentoring, a lot of teamwork is required out of their relationship. Teamwork in this study comprised of activities such as co-teaching, co-authorship and co-presentation. Findings from quantitative data on teamwork as a strategy for mentoring doctoral students for knowledge transfer were as indicated in Table 12.

Table 12

Doctoral Students, Supervisors and Chairmen use of Teamwork as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you use teamwork during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	8.1	5.8	4.7	1.2	0.5	31.9	**52.3**
Private University	4.7	2.9	2.2	1.2	1.2	35.5	**47.7**
Total	**12.8**	**8.7**	**6.9**	**2.4**	**1.7**	**67.4**	**100.0**
Supervisors							
Public University	4.0	12.0	4.0	4.0	12.0	12.0	**48.0**
Private University	8.0	4.0	4.0	0.0	8.0	28.0	**52.0**
Total	**12.0**	**14.0**	**8.0**	**4.0**	**20.0**	**40.0**	**100.0**
Chairmen							
Public University	15.4	7.7	15.4	7.7	0.0	7.7	**53.8**
Private University	0.0	15.4	7.7	0.0	15.4	7.7	**46.2**
Total	**15.4**	**23.0**	**23.0**	**7.7**	**15.4**	**15.4**	**100.0**

Findings in Table 12 show that there were a few of the doctoral students who had received mentoring through teamwork. This shows that majority of the doctoral students who took part in this study had been engaged in teamwork activities as a strategy for mentoring them for knowledge transfer in higher education. For the goals that have been set to be realized, teamwork should be accorded serious attention. The findings seem to show that trust, loyalty and commitment are as important as postulated in the social exchange theory (Stolte, *et al.*, 2001). Using teamwork as a strategy for mentoring doctoral students could be relied upon to promote knowledge transfer in higher education.

Offering the mentee a collaborative role in research was one of the themes that emerged from the qualitative data. During the interviews, one of the administrators from the private University reiterated that not every doctoral student has experience in teaching. In order to build

up teamwork in the doctoral student, the veteran practitioners should hold the former's hand and lead them through the various activities that may be deemed necessary. Similar sentiments were shared by some of the administrators during the interviews.

In the view of one of the administrators,

> Teamwork is important but in the current scenario where the doctoral student is no longer a tutorial fellow at the university but a full time lecturer elsewhere, time cannot allow…(pause)…things cannot work out. The doctoral programme has been reduced to a part time programme. This impedes any serious teamwork between the supervisors and the doctoral student (DE/M/2/2: 28, September, 2015).

The extract above indicate that time is a very vital factor in the mentoring relationship. However, the quote shows that the professional lifestyle of most doctoral students cannot allow them to be involved in serious teamwork activities with their supervisors.

Looking at the supervisors' responses, Table 12 shows that majority of them supported their doctoral students through teamwork. The table shows that supervisors who participated in this study employed teamwork as a way of mentoring doctoral students in order to ensure the continued transferring of knowledge. Additionally, these findings echo the importance of teamwork in as far as knowledge transfer in higher education is concerned. The findings also propagate the assertion by Nocolae and Vitelar (2013) whose study advanced that the ability to communicate, share and innovate is critical in meeting the challenges of the knowledge society. It implies that mentors should offer their mentees a collaborative role in the research work. By so doing, the generated knowledge gets to be transmitted to others while the cycle of mentoring doctoral students for knowledge transfer in higher education continues.

4.4.4 Reciprocation.

Mentoring is beneficial for students and faculty, as well as institutions because it facilitates the interpersonal and career-based outcomes. Due to its reciprocity, mentoring enables mentors to solidify their understanding of concepts by mentoring their mentees. In this study, doctoral students, supervisors and chairmen were asked to indicate in their respective questionnaires how often they had engaged in reciprocation as a mentoring strategy. Their responses were as shown in Table 13.

Table 13

Doctoral Students, Supervisors and Chairmen use of Reciprocation as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you use reciprocation during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	8.7	7.6	10.5	2.3	4.1	19.2	**52.3**
Private University	5.2	5.8	9.3	4.1	6.4	16.8	**47.7**
Total	**13.9**	**13.4**	**19.8**	**6.4**	**10.5**	**36.0**	**100.0**
Supervisors							
Public University	8.0	8.0	4.0	0.0	8.0	20.00	**48.0**
Private University	4.0	8.0	8.0	4.0	12.0	16.0	**52.0**
Total	**12.0**	**16.0**	**12.0**	**4.0**	**16.0**	**36.0**	**100.0**
Chairmen							
Public University	7.7	15.4	15.4	7.7	7.7	0.0	**53.8**
Private University	7.7	0.0	0.0	15.4	15.4	7.7	**46.2**
Total	**15.4**	**15.4**	**15.4**	**23.0**	**23.0**	**7.7**	**100.0**

When it comes to reciprocation, Table 13 shows that most of the doctoral students, supervisors and chairmen who participated in this study engaged in reciprocation. The findings show that reciprocation is common among the participants of this study. The findings imply that the doctoral students in the selected universities were meaningfully mentored through activities that adhere to the principle of reciprocity (Shore *et al.*, 2009). Furthermore, the findings hint to

the fact that the costs of mentoring may be time consuming but the benefits outweigh them this could be particularly so considering that through the strategy of reciprocity, both the mentor and the mentee benefit from the relationship. This promotes not only knowledge transfer but also ensures that new ideas, innovations and knowledge are generated. In the process, both the mentor and the mentee become scholars through their combined effort to fully accomplish the objective of higher education.

Findings from the interviews showed that there is increasing concern over the level of reciprocation between the supervisors and their doctoral students. The following is one of the quotes from the interview with one of the administrators:

> Today, doctoral studies have changed in that the doctoral students cannot know what their supervisors are doing. As a result, there is a continuous disconnect between the ideologies of the veteran academician and the armature ones. The result is the half-baked doctor that our universities are producing into the society. If this trend continues, our quality of education as a nation will continue being at stake (DA/M/4/4: 1, October, 2015).

The view expressed by one university administrator in the quote above indicates that reciprocation as a mentoring strategy is not fully exploited. As a result, this is likely to affect how knowledge is transferred in higher education. The result is likely to be a discord between the past, the present and the future of the academic and professional practice within the cycles of higher education.

According to CET (2013), both parties in the mentoring relationship should strike a nexus between mentoring and friendship called frientoring. In an interview with the administrators at public University and private universities, it emerged that there were meetings between

administrators and doctoral students at various levels such as departmental, faculty and university level. During such meetings, the doctoral students shared their experiences, expectations and challenges in a friendly manner while the administrators sought how to address them through the most appropriate mentoring activities. However, this disagrees with Colvin and Asham (2010) whose position was that expertise, experience and power are possible sources of misunderstanding and disagreement in the mentoring relationship. This finding implies that where frientoring has been realized, both parties give and receive intellectual and emotional reinforcement simultaneously. By so doing, the administrators get to improve their practice of mentoring doctoral students for knowledge transfer while at the same time doctoral students get to receive mentoring and learn the ropes of how to transfer knowledge across the higher education plane.

4.4.5 Conferencing.

Universities are expected to not only generate but also to transfer knowledge to society. Through conferencing, knowledge is generated, shared and transferred making it one of the most common university cultures. It is due to this that the researcher found it necessary to include conferencing as one of the *apriori* themes in this study. The findings from the quantitative data are in Table 14.

Table 14

Doctoral Students, Supervisors and Chairmen use of Conferencing as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you use conferencing during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	7.6	7.6	5.2	2.9	2.3	26.7	**52.3**
Private University	9.8	4.6	4.1	2.9	6.4	19.8	**47.7**
Total	**17.4**	**12.2**	**9.3**	**5.8**	**8.7**	**46.5**	**100.0**
Supervisors							
Public University	4.0	12.0	8.0	4.0	12.0	8.0	**48.0**
Private University	12.0	8.0	4.0	8.0	8.0	12.0	**52.0**
Total	**16.0**	**20.0**	**12.0**	**12.0**	**20.0**	**20.0**	**100.0**
Chairmen							
Public University	7.7	7.7	23.0	7.7	7.7	0.0	**53.8**
Private University	0.0	7.7	0.0	0.0	30.7	7.7	**46.2**
Total	**7.7**	**15.4**	**23.0**	**7.7**	**38.4**	**7.7**	**100.0**

In this study, conferencing was packaged as containing seminar, workshop and conference attendance. The doctoral student participants were asked to show how many times they had attended any of the three within a period of one academic year. According to the findings in Table 14, the doctoral students who participated in this study were engaged in mentoring by their supervisors through conferencing. The findings show that the universities where this study was conducted promoted conferencing activities. The effort put in by each university to promote scholarship and knowledge transfer through the strategy of conferencing could be a response to the wakeup call by the body charged with the duty of foreseeing the operations of all universities in Kenya. The findings illustrate that these universities are considering CUE (2014) seriously in as far as the policy on publishing two articles in a refereed journal seriously.

In support of the mentoring on seminar attendance, another administrator added:

> We encourage all our doctoral students to attend seminars. I personally take my doctoral students to my undergraduate and Masters' classes so that they can also learn from my practice as an academician. I cannot speak for all other lecturers since this depends on many other factors ranging from personal preferences to the free will. For my part, I do it because it is what was done to me several years back when I was pursuing my doctorate. I have to transfer this to the current generation of doctoral students. It is also my hope that they will perpetuate the same to future generations of doctoral students that will pass through their hands (DA/F/3/7: 4, December, 2015).

When asked to explain how the encouragement is offered, the administrator elaborated by adding that:

> In our faculty, it is expected that a doctoral student should have attended at least two seminars before they make their own presentation. To ensure that this happens, we communicate to all doctoral students in a given department about an upcoming seminar through emails and notice bullet boards (DA/F/3/7: 4, December, 2015).

The explanation given by the administrator seems to float the fact that doctoral students in their university are encouraged to attend seminars. The finding is in agreement with the belief by RGS (2014) that the mentors assist doctoral students to deliver research methodologies, intellectual ideas and professional practices as they attend to the latter's intellectual souls. This implies that some of the doctoral students benefited in as far as presentations were concerned. When such happens, then knowledge transfer in higher education would be guaranteed.

In another interview, an administrator from the private University argued that since most of the doctoral students were working, their attendance of the seminars, workshops and

conferences cannot be guaranteed. However, the same administrator, one administrator was quick to reiterate the pivotal role of conferencing in knowledge creation and transfer and added that:

> I think the seminars, workshops, conferences and public defenses should be made compulsory for the doctoral students. At least, even if one cannot attend all of them, a certain number of attendance should be set. This would help to curb the notion that some doctoral students have: To attend these defenses just when they know that they are about to defend themselves. That is not good (DE/M/2/2: 28, September, 2015).

From the interview excerpt with the administrator, it emerges that some of the doctoral students chose when to attend the seminars. This alludes to Jinyang (2015) who posited that knowledge sharing in the mentoring relationship is a personal behaviour manifested as a social exchange between the involved parties. It implies that through knowledge sharing, the doctoral student gets support, trust, self-esteem and prestige. This could explain why some doctoral students choose to attend the seminars, workshops and conferences at specified times in their PhD programme.

Although the findings from quantitative data show that conferencing is seriously promoted, findings from qualitative data did not. Instead, most of the interviewees were of contrary view. For example, one opined that seminars used to be in the past hence interdepartmental collaboration was required to organize them for the doctoral students more. Considering that seminars are supposed to be part and parcel of the doctoral programme, it is imperative to promote them by creating physical space through institutionalization of the same. Following the earlier findings on conferencing, this study establishes that co-presentation is an area that requires being encouraged among the doctoral students. Considering that conferences

provide an avenue for publication, it is understood why they should be relied on for knowledge transfer in higher education.

4.4.6 Presentation.

In the circles of education and teaching, presentations have a very central position because presentation is the mode of delivering everything academic. Owing to that, this study included presentation as part and parcel of the predetermined themes. The findings were as shown in Table 15.

Table 15

Doctoral Students, Supervisors and Chairmen use of Presentation as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you make presentations during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	6.4	4.7	4.0	3.5	6.4	27.3	**52.3**
Private University	5.8	0.0	2.9	8.1	22.1	8.7	**47.7**
Total	**12.2**	**4.7**	**7.0**	**11.6**	**28.5**	**36.0**	**100.0**
Supervisors							
Public University	4.0	12.0	4.0	4.0	16.0	8.0	**48.0**
Private University	8.0	4.0	12.0	0.0	16.0	12.0	**52.0**
Total	**12.0**	**16.0**	**16.0**	**4.0**	**32.0**	**20.0**	**100.0**
Chairmen							
Public University	7.7	7.7	7.7	15.4	7.7	7.7	**53.8**
Private University	0.0	0.0	0.0	15.3	23.0	7.7	**46.2**
Total	**7.7**	**7.7**	**7.7**	**30.7**	**30.7**	**15.4**	**100.0**

Table 15 shows that majority of the chairmen from private University had doctoral students in their departments mentored through presentations. The findings show that the chairmen from private University promoted and availed opportunities for the doctoral students in their departments to be guided on presentations more than their counterpart in the public University. These variations bring into play the role of context in the mentoring relationship. The

findings show that the contextual variations in terms of the rules and regulations governing and regulating the mentoring relationship cannot be overlooked (Cook, 2000). This is why in the early stages of this study, the researcher introduced the university context as one of the intervening variables.

The findings from the analysis of documents such as the academic programme handbook indicated that in both universities, presentation was a core component of the doctoral programme (UoN, 2015; CUEA, 2005). This was in harmony with the interview findings which showed that in both universities, doctoral students have to make several presentations of their research work and satisfactorily convince the panel of examiners before they could be awarded their doctorate. In both universities, there were posters on the student notice boards announcing the upcoming seminars. However, a sharp contrast existed in that whereas the notices at the public University extended to invite all students in the given department to attend without failure, the ones in the private University ere silent on the matter. This implies that the policy aspects of presentation in the private University were not so pronounced at the departmental level as they were at the public University.

4.4.7 Supervision.

Mentoring in this study refers to the academic and non-academic activities between the doctoral student and the lecturers aimed at strengthening the professional and academic progression of both the student and the lecturer. Supervision is therefore identified as an opportunity for mentoring doctoral students. Since supervision is a prerequisite for any doctoral programme, especially at the dissertation or thesis development phase, this study sought to determine if supervisor allocation is used as a strategy for promoting mentoring doctoral students. The provided responses were as shown in Table 16.

Table 16

Supervisor Allocation according to Doctoral Students

(n = 172)

Item	Frequency	Percent
Number of Supervisors assigned		
One	7	4.0
Two	136	79.0
Three	11	6.2
More than three	1	1.0
No idea	17	9.8
Total	**172**	**100.0**
In charge of supervisor allocation to Doctoral Student		
Chairman of Department	104	60.4
Dean of Faculty	43	25.0
Panel	13	7.6
No Idea	12	7.0
Total	**172**	**100.0**

Table 16 shows that 79% of the doctoral students who participated in this study indicated that they were entitled to two supervisors. According to CUEA (2005), each doctoral student is entitled to two supervisors. The findings show that most of the doctoral students sampled for this study were conversant with the number of supervisors assigned to them during dissertation writing. This could imply that policy guidelines on the number of supervisors allocated to a doctoral student were adequately explored in the two universities that took part in this study.

However, most of the doctoral student participants indicated that the chairmen of Departments were responsible for allocation of supervisors to them. Table 16 shows that less than ten percent of the doctoral students thought that the allocation of supervisors is a prerogative of the Postgraduate studies committee (Panel). The findings point out that most of the doctoral students lacked awareness on how supervisors are allocated to them. The overwhelming thought that supervisors were assigned to doctoral students by the chairmen of Departments sharply contradicts CUEA (2005) which stipulates that supervisors are allocated to

each doctoral student by a panel called Postgraduate Academic Committee (PAC). However, the findings imply that the doctoral students were not familiar with the guidelines.

After examining how supervisors are allocated to doctoral students in the two universities, the researcher progressed to investigate how supervision as a mentoring strategy was used to foster knowledge transfer within the same universities. For purposes of making a comparison, the findings from all categories of participants who completed questionnaires were cross tabulated. The findings were as shown in Table 17.

Table 17

Doctoral Students, Supervisors and Chairmen use of Supervision as a Mentoring Strategy

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	How many times did you use supervision during the previous semester?						
	Never	**One**	**Two**	**Three**	**Four**	**Five and more**	**Total**
Doctoral Students							
Public University	6.4	5.2	7.0	4.7	5.2	23.8	**52.3**
Private University	4.7	5.2	3.4	4.7	9.3	20.3	**47.7**
Total	**11.1**	**10.4**	**10.4**	**9.4**	**14.5**	**44.1**	**100.0**
Supervisors							
Public University	0.0	8.0	16.0	0.0	24.0	0.0	**48.0**
Private University	0.0	0.0	16.0	4.0	32.0	0.0	**52.0**
Total	**0.0**	**8.0**	**32.0**	**4.0**	**56.0**	**0.0**	**100.0**
Chairmen							
Public University	0.0	15.3	15.3	7.7	15.4	0.0	**53.8**
Private University	7.7	7.7	7.7	7.7	15.4	0.0	**46.2**
Total	**7.7**	**23.0**	**23.0**	**15.4**	**30.8**	**0.0**	**100.0**

According to the findings presented in Table 17, majority of the doctoral students from both universities had received supervision more than three times. The table also shows that supervision given to doctoral students by the supervisors and chairmen was average. The findings agree with those drawn from the interviews which indicated that nearly all interviewees agreed that supervision is a core strategy in mentoring doctoral students for knowledge transfer

in higher education. This implies that in the sampled universities, supervision is the most popular form of mentoring strategy among the doctoral students who participated in this study.

During the analysis of the qualitative data, the theme of supervision emerged thus ensuring a convergence of the constructivist and the positivist thoughts that characterized this study's design. For instance, at the private University, one administrator said that supervision was a very core component of the doctoral programme. Unfortunately, he added that it was also the most problematic for the students. The administrator went further to add that when supervision begins, a true PhD candidate can be known since in most cases, the doctoral students will remain at large for long periods of time. Similar sentiments were shared by another administrator at the public University who expressed disappointment at how difficult the doctoral students become during the supervision phase. This could be the reason behind the delayed completion rates as pointed out by Amimo (2012). The findings contradict the assertion by andragogy theory that adult learners know the reason why they need to learn and take the first step to learn (Knowles, 1981). If this was the case, there would be no cases of follow-ups or disappearances among doctoral students at the stage of supervision.

As a strategy to improve supervision, an administrator at the public University stated that they follow up students in the field in order to get feedback. The administrator explained further that they do so in order to get first-hand information on the general performance of their graduates in the labour market. By so doing, they are able to bring new insights into their doctoral programmes from the knowledge shared by the doctoral students. In this study, follow ups are an important part of the supervision process as a mentoring strategy. The findings agree with (Nicolae & Vitelar, 2013) who opined that if well utilized, follow up could be a surest means of transferring knowledge from the mentee to the mentor and vice versa. By going an

extra mile to follow up graduates in the field, the public University is simply broadening the mentoring spectrum for doctoral students to sustain knowledge transfer.

4.5 Factors affecting Mentoring Doctoral Students for Knowledge Transfer

In order to determine the factors affecting mentoring doctoral students on knowledge transfer in higher education, the study asked doctoral students, supervisors, and heads of departments to respond to items related to the same. Their responses were as presented in the section that follows.

4.5.1 Involvement Level of Doctoral Students in Knowledge Transfer Activities.

Having established the mentors input towards mentoring doctoral students in the previous section, the study further sought to investigate the levels of involvement by doctoral students in the various activities where they received mentoring. The impetus of having this section was to enable the study to investigate how much the doctoral students put into practice what they learn while still at the university as means of ensuring knowledge transfer in higher education. Other than indicating whether they had engaged in the given activities or not, the doctoral students were also expected to indicate how often they did so in the previous academic year on a scale of 1 to 6. Their responses were as presented in Table 18.

Table 18

Participation of Doctoral students in Mentoring for Knowledge Transfer

($n_1 = 172$)

Area	Yes		No		Measures				
Goal setting	*f*	%	*f*	%	Mean	Std. Error of Mean	Std. Deviation	Variance	Skewness
Have you set any academic goals since you joined the PhD programme?	125	72.7	47	37.3	2	.115	1.232	1.517	1.531
Have you met any of your career aspirations since you joined the PhD programme?	87	50.6	85	49.4	1.5	.125	1.095	1.200	2.799
Social Interaction									
Have you ever consulted your lecturers this semester?	125	72.7	47	37.3	3.7	.165	1.773	3.144	-.111
Teamwork									
Have you ever been allocated a unit to teach in your university as a PhD student?	31	18.0	141	82.0	2	.382	1.834	3.364	1.549
Have you published any article as a PhD student?	26	15.1	146	84.9	1.4	.183	0.778	0.605	2.527
Have you presented any papers at conference(s)	42	24.4	130	75.6	1.8	.256	1.493	2.229	2.174
Reciprocation									
Have you acquired any new computer skills since you joined PhD?	85	49.4	87	50.6	2.3	.179	1.452	2.109	1.308
Conferencing									
Have you attended any seminar since you joined the PhD programme?	65	37.8	107	62.2	1.8	.171	1.235	1.525	1.735
Have you attended any workshops since you joined the PhD programme?	54	31.4	118	68.6	1.8	.236	1.509	2.276	1.909
Have you attended any conference(s) since you joined the PhD programme?	55	32.0	117	68	1.6	.190	1.220	1.488	2.496
Presentations									
Have you made any class presentations?	81	47.1	91	52.9	4.2	.245	2.008	4.033	-.616
Have you made any conference presentations?	35	20.3	137	79.7	1.7	.286	1.458	2.125	2.273
Have you made any workshop presentations?	34	19.8	138	80.2	1.6	.239	1.193	1.423	2.726
Supervision									
Have you been allocated any undergraduate project to supervise?	23	13.4	149	86.6	2.1	.501	1.875	3.516	1.475

From the findings presented in Table 18, the doctoral student participants indicated that 73% of them had set academic goals and consulted their lecturers compared to only 15% and 13% who had published articles and been allocated undergraduate projects to supervise respectively. These findings mean that setting academic goals and class presentations were the most common activities and had the highest engagement levels among the sampled doctoral students. Publications and assisting undergraduate students on the other hand were the least popular among the doctoral students who took part in this study. These findings show that every mentoring relationship is expected to set clear goals while generating new knowledge as postulated by Blau (1964). However, these findings also imply that although publication is a policy requirement by the Commission for University Education in Kenya, the universities are yet to put it fully into practice. CUE (2013) stipulates that all doctoral students should have at least two publications in refereed journals of standing reputation before graduation.

According to the conducted interviews, the study established that all the interviewees knew about the publication requirement by the Commission for University Education. However, when asked further on whether their universities or sections had fully implemented the policy, mixed responses were drawn. For instance, one administrator responded on the implementation of the publication requirement for doctoral students in this manner:

> Well...(hesitation)...I would say partly yes and partly no. Yes, because some of our doctoral students (adds...even masters) have published. No, because we have not made it mandatory for each doctoral student to publish during their course of study. Although we offer a lot of supportive encouragement towards the same, the few who have published are very isolated cases of self-drive (DB/M/1/1: 21, September, 2015).

The response given by the administrator shows that not every doctoral student published before graduating from the doctoral programme. This is in agreement with Mudhovozi *et al.,* (2013) who pointed out that there is very little publication going on among doctoral students. This implies that if publication is the biggest transmitter of knowledge generated by universities, then knowledge transfer is likely to be affected by the low levels of publication among the doctoral students.

In another interview, another administrator was quick to point out that: "A policy document is in the pipeline and will be coming out any time soon. The policy will require every doctoral student to make at least one publication in a refereed journal before graduation". This sharply contradicts the stipulation by the CUE that each doctoral student should have at least two publications in a refereed journal before graduation. In yet another interview, another administrator was very certain that the publication policy was fully implemented in their university by saying: "All our doctoral students are expected to publish at least two articles in refereed journals". However, on further probing, it was established that the expectation is not the norm. This could imply that there is no deliberate effort to ensure that knowledge transfer takes place in the selected universities through publications.

The interview insights were triangulated with those from the document analysis in which the researcher sought to find out what was contained in the postgraduate handbooks. In one instance, publication was mentioned but without explicit emphasis. It highlighted that the final research output by a postgraduate student may be published in full or in section in refereed journals. These findings indicate that publication by doctoral students is not receiving much attention as it should in the universities where this study was conducted. These findings confirm those from Sriwichai et al. (2014) that universities around the world are experiencing low

numbers of publications while at the same time echoing what Nocolae and Vitelar (2013) described as lack of clear roadmap among academic leadership on how knowledge should be transferred.

Looking at the mean scores against each activity, Table 18 shows that class presentation and consultation had 4.2 and 3.7 respectively whereas article publication and attainment of career aspirations had 1.4 and 1.5 out of the maximum 6. These findings indicate that class presentations had the highest mean score followed by consultation while publication had the least mean score after meeting career aspirations. Once more, these findings imply that goal setting and class presentations are well attended to. This is very interesting considering the fact that some of the doctoral students who took part in this study were enrolled in doctoral programmes that did not offer coursework. These findings could imply that even in cases where the doctoral programme is by research only, there were more seminar presentations. What this means is that the doctoral students enrolled in doctoral programmes did a lot of presentations.

Table 18 also shows that class presentation had a standard deviation of 2.00 while publication had 0.78. These findings indicate that the two had the highest and the lowest standard deviation scores respectively among the doctoral students. The greater standard deviation score on class presentation implies that most of the scores on this item were poorly distributed while the lower standard deviation score on publication show that the data had a better distribution. The poor distribution of data on class presentation could be attributed to the fact the more than half the doctoral students who took part in this study were enrolled in a research only programme. A view expressed by one administrator during the interview added to this fact:

> We look forward to rolling out the taught doctoral programmes in our faculty from next academic year. This will help in strengthening our doctoral programmes even more

besides ensuring the production of quality professionals in the field of higher education (DA/F/3/7: 4, November, 2015).

The qualitative findings imply that the success of mentoring, as postulated in the social exchange theory, is context dependent. The findings indicate that the nature of doctoral programme (taught or not taught) can affect how mentoring doctoral students for knowledge transfer in higher education is done. In the section that follows, the findings from supervisors and chairmen of departments have been discussed.

4.5.2 Involvement Level of Supervisors in Knowledge Transfer Activities.

As a way of furthering the factors affecting mentoring doctoral students for knowledge transfer in higher education, this study sought to find out from supervisors how they were involving the doctoral students in various activities. Their responses were as follows:

Table 19
Involvement of Supervisors with Doctoral Students

(n_2= 25)

Activities	Yes		No		If Yes, indicate students' year of study							
					1st Year		2nd Year		3rd Year		4th Year	
Goal setting	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Are there any PhD students who have shared their academic goals with you?	24	96.0	1	4.0	4	16.0	11	44.0	9	36.0	1	4.0
Have any of your PhD students who have shared their personal aspirations with you?	22	88.0	3	12.0	5	20.0	10	40.0	6	24.0	3	12.0
Social Interaction												
Has any PhD student consulted you this semester?	24	96.0	1	4.0	7	28.0	13	52.0	10	40.0	2	8.0
Teamwork												
Have you ever assigned a PhD student a topic to co-teach with you in any unit?	7	28.0	18	72.0	1	4.0	2	8.0	4	16.0	0	0.0
Do you know a PhD student who has co-published any article with a lecturer?	6	24.0	19	76.0	0	0.0	4	16.0	6	24.0	1	4.0
Have you co-presented papers at conference(s) with any of your PhD student(s)?	6	24.0	19	76.0	0	0.0	1	4.0	2	8.0	1	4.0
Reciprocation												
Have you noted new computer skills in your PhD students since they joined the programme?	15	60.0	10	40.0	4	16.0	7	28.0	5	20.0	2	8.0
Conferencing												
Do your PhD students engage in academic seminars during your lecture session(s)?	19	76.0	6	24.0	9	36.0	7	28.0	7	28.0	2	8.0
Do your PhD students attend academic workshops?	21	84.0	4	16.0	6	24.0	9	36.0	9	36.0	3	12.0
Have any of your PhD students attended any international conference(s) outside your university?	4	16.0	21	84.0	0	0.0	2	8.0	1	4.0	1	4.0
Presentations												
Have you assigned any PhD student class presentations?	20	80.0	5	20.0	5	20.0	6	24.0	8	32.0	3	12.0
Supervision												
Have you referred any undergraduate/masters students to your PhD student(s) for academic guidance?	13	52.0	12	48.0	2	8.0	3	12.0	7	28.0	2	8.0

The findings presented in Table 19 show that sharing the two activities under goal setting had mean scores of 96% and 88% respectively. This shows that goal setting had very high mean score implying that most of the supervisor participants in this study had their doctoral students share with them their academic and personal goals. The table also shows that most of the doctoral students who had shared their goals with their supervisors were in the second and third years of study. A few first years and those in the fourth year and beyond had also shared their goals. These findings indicate that by the time the doctoral students got to second or third years of study, most of them had shared their goals with their supervisors as opposed to when they are still in their first year of study. The few doctoral students who were indicated by the supervisors to have shared their goals while in their fourth years at the time of this study could be the cases that have delayed to complete their studies within stipulated time among other factors. This is because all the doctoral programmes offered by the faculties that were selected for this study had duration of three years.

In relation to the same, one administrator shared that,

> In my faculty, we have an acute shortage of supervisors. Lately, most of our lecturers have left for greener pastures elsewhere. Owing to this, the few that are left have too much to handle. I can assure you that it is not easy to handle students from undergraduate all the way to the doctoral level. Time is not available. In other words, I cannot blame any of these lecturers for not finding time to co-publish with the doctoral students (DE/M/2/2: 28, Septemeber, 2015).

The views expressed by the administrator in the quote above show that there are factors affecting the level of supervisor involvement with the doctoral students which are far beyond the former's control. If this is the case, then mentoring may not be very effective as the shared knowledge is

not shared as expected. This is likely to affect the quality of higher education in the selected universities.

As shown in Table 19, 96% of the supervisors in this study had been consulted by their doctoral students. This indicates that consultation was the most common activity that brought supervisors together with their doctoral students. These findings agree with those presented in section 4.5.1 of this study which showed that most of the doctoral students who took part in this study agreed to having consulted their supervisors. In terms of distribution by the doctoral students' years of study, second years and third years had the highest and second highest frequencies respectively. First year doctoral students averagely consulted their supervisors.

Teamwork between the supervisors and their doctoral students was below average as shown in Table 19. The table shows that very few supervisors had involved their doctoral students in co-teaching, co-publishing and co-presenting papers at conferences. These findings indicate that the level of publication and conference presentation by doctoral students in the selected universities was still minimal. However, the findings suggest that contrary to the other knowledge transfer activities, teamwork had a slightly larger numbers of first years when compared to the second years. This scenario could be attributed to what Gardiner (2009) and the social exchange theory describe as mutuality and reciprocity respectively. First years require frequent consultation compared to the other groups. It implies that the doctoral students appreciate collegial and mutual mentoring relationships.

According to the findings in Table 19, only 24% of the supervisors in this study had noted acquisition of new computer skills in their doctoral students compared to the remaining 76% who had not. This means that there were more supervisors who did not notice new computer skills in their doctoral students. Table 12 also shows that 76%, 84% and 64% of the

supervisors who took part in this study indicated that they had engaged their doctoral students in academic seminars, attended academic workshops and attended international conferences respectively. This shows that most of the supervisors involved their doctoral students in conferencing activities in the selected universities. The findings further show that the supervisors engaged in the conferencing activities with doctoral students from different years of studies on almost an equal level. These findings elaborate that in the selected universities, there was space for doctoral students to contemplate their personal, professional and intellectual identities for knowledge transfer.

4.5.3 Involvement Level of Chairmen of Departments in Knowledge Transfer Activities.

Guided by its research design of mixed triangulation, this study sought to triangulate the responses of the supervisors with responses drawn from the chairmen of departments. To achieve that, the chairmen of department participants were required to respond to items similar to those answered by the supervisors in the previous section. The items administered to the chairmen of departments were designed to capture whether the activities occurred in the various departments within the previous academic year. The responses from the chairmen of departments were as presented in Table 20.

Table 20

Involvement of Chairmen of Departments with Doctoral Students

($n_3 = 13$)

	Yes		No		If Yes, indicate students' year of Study							
					1st Year		2nd Year		3rd Year		4th Year	
Goal setting	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%	*f*	%
Are there any PhD students who have shared their academic goals with your department?	8	61.5	5	38.5	0	0.0	5	38.5	3	23.1	0	0.0
Have any of your PhD students informed your department about their personal aspirations?	8	61.5	5	38.5	0	0.0	4	30.8	5	38.5	0	0.0
Social Interaction												
Do lecturers in your department have specific consultation hours for PhD?	4	30.8	9	69.2	3	23	1	7.7	2	15.4	0	0.0
Have you received any complaints from PhD students about consultation hours availed by your lecturers?	8	61.5	5	38.5	1	7.7	2	15.4	5	38.5	0	0.0
Have any of your lecturers reported lack of consultation among PhD students in your department?	9	69.2	4	30.8	2	15.4	4	30.8	5	38.5	0	0.0
Teamwork												
Did your department assign any PhD students units to teach during the previous academic year?	7	53.8	6	46.2	0	0.0	2	15.4	4	30.8	1	7.7
Did any PhD students in your department publish any article during the previous academic year?	5	38.5	8	61.5	0	0.0	3	23.1	3	23.1	0	0.0
Did any PhD students co-present papers at conference(s) with lecturers in your department?	6	46.2	7	53.8	0	0.0	4	30.1	4	30.8	0	0.0
Reciprocation												
Do you notice acquisition of any new computer skills among PhD students in your department?	8	61.5	5	38.5	3	23.1	2	15.5	5	38.5	0	0.0
Conferencing												
Do your PhD students engage in academic seminars at departmental level?	6	46.1	7	53.8	2	15.4	2	15.4	3	23.1	0	0.0
Do your PhD students attend academic workshops?	8	61.5	5	38.5	1	7.7	3	23.1	4	30.8	0	0.0
Do PhD students in your department attend any international conference(s) outside your university?	3	23.1	10	76.9	0	0.0	1	7.7	2	15.4	0	0.0
Presentations												
Does your department assign PhD student class presentations?	7	53.8	6	46.2	6	46.1	2	15.4	3	23.1	0	0.0
Did any PhD students in your department make conference presentations during the previous academic year?	4	30.8	9	69.2	0	0.0	1	7.7	3	23.1	2	15.4
Do PhD students in your department make workshop presentations?	5	3.38.5	8	61.5	0	0.0	2	15.4	3	23.1	0	0.0
Supervision												
Do PhD students offer academic guidance to undergraduate/masters students in your department?	6	46.2	7	53.8	0	0.0	4	30.8	4	30.1	1	7.7

From Table 20, 62% of the chairmen of departments who participated in this study indicated that they had doctoral students in their departments sharing their academic goals and personal aspirations respectively. These findings show that majority of the chairmen of departments had students in their departments engaged in goal setting. The table also shows that the set goals had been set by doctoral students in the second and third years of study while those in the first year and fourth years onwards were not in the picture. This implies that first year doctoral students had not made known their academic and personal goals to their departmental chairmen. As seen under the responses from the supervisors, this could imply that the first doctoral students were still learning the ropes of the game and had not developed a rapport with their respective department.

There were only 31% of the chairmen of departments who took part in this study who indicated that lecturers in their departments had specified consultation hours for the doctoral students. Still on consultation, 62% of the chairmen of departments indicated that they had received complaints from doctoral students about the consultation hours while 69% indicated that lecturers in their departments had reported to them citing lack of consultation among the doctoral students in their departments. These findings imply that very few chairmen of departments were aware about the availability of consultation hours for doctoral students availed by lecturers in their departments despite majority of them indicating that they had received complaints from both doctoral students and their supervisors. This sharply contradicts the social exchange theory which recognizes that exchange relationships should be governed by normative exchange orientations delineating acceptable and appropriate behaviours (Sabatelli, 2003). The findings point towards poor academic leadership at the departmental levels thereby resonating with Nocolae and Vitelar (2013) who found out that academic leadership affects mentoring

activities and the eventual lack of clear direction on how knowledge should be transferred. According to the interview findings with one of the administrators, "...the academic language belongs to the chair of department who oversees plans and executes all activities at the departmental level". As pointed out by the administrator in this interview excerpt, knowledge transfer depends on the chairman of department. This echoes Hadar (2014) that knowledge transfer is often embedded not only in documents but also in the institution's routines, processes, practices and norms.

Again, Table 20 shows that 54% of the chairmen of departments who participated in this study had doctoral students in their departments co-teach units, 39% had co-published and 46% had co-presented with lecturers in their departments. These findings indicate that few departmental chairmen had doctoral students in their departments engage in team work as a platform for knowledge transfer within the selected universities. This implies that knowledge transfer through teaching, publication, and presentation by the doctoral students in the studies that took part in this study was minimal. Seemingly, these findings advance Chika and Nkechi (2011) who postulated that many doctoral students did not unlock their potentials because of crippled mentoring services in the system.

Further still, the findings in Table 20 show that 40%, 62% and 23% of the chairmen of departments had doctoral students in their departments attend seminars, workshops and international conferences respectively. This shows that workshops were commonly organized at the departmental level for doctoral students than seminar while international conferences were still rare in the selected universities. These findings imply that there is need for academic seminars and international conferences to be strengthened in the universities where this study was conducted. Although Gorzaka (2012) asserts that conference attendance is a vital avenue

through which mentoring as well as knowledge transfer can be handled, these findings have shown that this is not the case in the universities selected for this study.

Knowledge sharing is a key element of knowledge transfer. The findings in Table 20 show that only 46% of the sampled chairmen of departments had doctoral students in their departments offer academic guidance to the junior students in the undergraduate and Master's programmes. Again, the table shows that the doctoral students who had given academic guidance to junior students were all either in their second or third year of study. These findings could be pointing to the fact that doctoral students are overwhelmed with work at their work stations as one administrator pointed out during the interview:

> Availability…of course, the availability of the doctoral student is vital if we are going to entrust them with our undergraduate or masters' students. Considering that most of our doctoral students are working, having to work and go to class or supervise others elsewhere is a lot of work (DE/M/2/2: 28, September, 2015).

These findings agree with those advanced by Ndebele et al. (2013) that time was one of the major challenges constituting circumstances beyond both the mentor and mentee that affected mentoring negatively. The findings could also imply that such doctoral students are using time as an excuse while in essence, they are not proactive. The findings further agree with the theory of andragogy which advances that experiences such as working full-time and trying to make ends meet financially are among other factors that affect mentoring doctoral students.

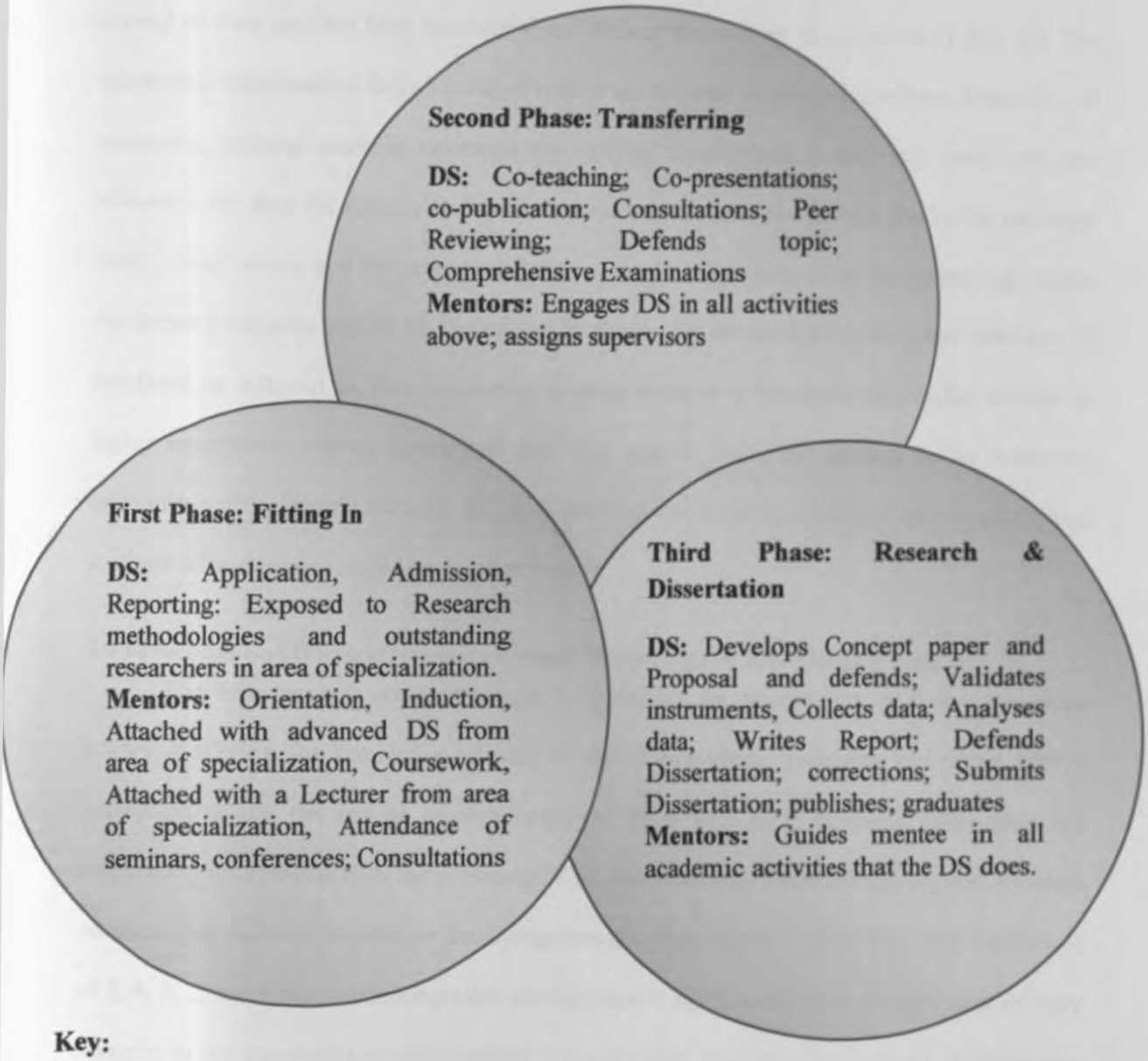
However, another interviewee had a totally different opinion which brought out the fact that most of the individuals admitted into the doctoral programme in the present day are very weak and lacking in the required intellectual capacity:

> The biggest challenge is the rapid increase in the number of doctoral students. Numbers are good but some are too weak. Unlike during our times when only the best used to come back for PhD, today things have changed. This however, is not helping our higher education or taking us anywhere better. As a matter of fact, I still feel PhD should remain a reserve of a few individuals: those endowed with faculties of high order thinking, the critical thinkers (DA/F/3/7: 4, December, 2015).

From this interview power quote, Mudhovozi's (2013) position that doctoral students lack knowledge, lack of English expressive skills, poorly referenced their work, submitted unedited work and used outdated sources is implied. According to these findings, it is apparent that the minimal knowledge transfer activities in the selected universities for this study resulted from factors related to the doctoral students themselves. Looking at the several benefits that accrue from mentoring, these findings seem to contradict the social exchange theory which is of the view that social exchanges between two or more parties entail effort by the participants to fulfill their basic needs (Cropanzano & Mitchell, 2005). This shows that although knowledge transfer is going on in the selected universities, a lot need to be done. If doctoral students lack time and capacity to be mentored, then it follows that there cannot be maximum knowledge transfer taking place in the universities where this study was conducted. Owing to this, the study establishes that there is need to tie time to the academic life of every doctoral student right from admission to successful graduation.

Since the study established that on average doctoral programmes should run for three years, if knowledge transfer is going to be enhanced, then time has to be tied to all the mentoring activities that doctoral students are engaged in. Figure 2 is a diagrammatic presentation of the Time Bound Mentoring Theory (TBMT) generated by the researcher. The theory proposes how

mentoring doctoral students can be done within specified time in order the sustain knowledge transfer in higher education.



Key:

DS Doctoral Student

Source: Researcher, (2016)

Figure 2: Time Bound Mentoring Theory

At the heart of the time bound mentoring theory (TBMT) is the assumption that in any relationship, time is of essence. Due to this, TBMT assumes that all mentoring relationships depend on time and that both the mentor and the mentee need to be conscious of this fact. The mentoring relationship is bound to fail if time is not factored in through timelines. Therefore, all mentoring doctoral students summons the various stakeholders to not only carry out time allocation but also fix functional deadlines for the same. Borrowing from the social exchange theory, stage theory and the pedagogical theory, the TBMT assumes that the mentoring process for doctoral students should be carried out in phases that have clearly articulated timelines. If timelines are adhered to, then mentoring doctoral students will sustain knowledge transfer in higher education. Having determined that time was an important element in the mentoring relationship with doctoral students, the study proceeded to investigate the perceptions of doctoral students toward mentoring for knowledge transfer.

4.6 Perceptions of Doctoral Students toward Mentoring for Knowledge Transfer

The fifth research question sought to determine the perceptions of doctoral students toward mentoring for knowledge transfer in higher education. According to Fowler (2009), perception entails the mental process employed by a person in selecting, organizing and interpreting information from the environment to draw meaning. Items addressing selected areas on mentoring doctoral students for knowledge transfer were asked. A five point scale with values of 5, 4, 3, 2, and 1 was used to represent strongly agree, agree, undecided, disagree and strongly disagree in the questionnaire administered to the doctoral students. The doctoral students who participated in the study were instructed to select from these options to indicate their responses. The researcher went further and included the mean, standard deviation and coefficient of variation scores for each likert item. Their responses were as follows.

Statement	SA		A		U		D		SD		Mean	Std D	CV
	f	%	*f*	%	*f*	%	*f*	%	*f*	%			
My lecturers encourage me to reflect on my future professional practice	36	20.9	74	43.0	18	10.5	19	11.0	25	14.5	**3.45**	**1.33**	**0.39**
Mentoring doctoral students is a waste of time	2	1.2	16	9.3	14	8.1	41	24.4	98	57.0	**1.85**	**1.86**	**1.01**
Through teamwork, I have been able to co-present conference papers with some of my lecturers	12	7.0	43	25.0	40	23.3	38	22.1	39	22.7	**2.72**	**1.26**	**0.46**
Mentoring is an effective way of ensuring that doctoral students complete their studies in time	58	33.7	67	39.0	25	14.5	14	8.1	8	4.7	**3.89**	**1.11**	**0.29**
Mentoring doctoral students should be allocated more time	58	33.7	69	40.1	26	15.1	11	6.4	8	4.7	**3.92**	**1.08**	**0.28**
Lecturers give adequate time for consultation with doctoral students	20	11.6	48	27.9	39	22.7	26	15.1	39	22.7	**2.91**	**1.34**	**0.46**
Mentoring doctoral students should start at admission	61	35.5	62	36.0	33	19.2	10	5.8	6	3.5	**3.94**	**1.05**	**0.27**
The gender of the supervisor does not play a role in how doctoral students are supervised	49	28.5	50	29.1	35	20.3	19	11.0	19	11.0	**3.53**	**1.31**	**0.37**
Lecturers have huge work load which hinders quality supervision of dissertation	51	29.7	44	25.6	38	22.1	28	16.3	11	6.4	**3.56**	**1.25**	**0.35**
My university's dissertation supervision policy is available to every doctoral student	22	12.8	45	26.2	54	31.4	24	14.0	26	15.1	**3.25**	**2.60**	**0.80**
Supervisors assigned to doctoral students have the essential dissertation supervision skills	32	18.6	57	33.1	41	23.8	26	15.1	16	9.3	**3.37**	**1.21**	**0.36**
Doctoral students in my faculty complete their dissertations within stipulated time	21	12.2	39	22.7	33	19.8	34	19.8	44	25.6	**2.94**	**2.69**	**0.91**
Doctoral students must have at least two publications before graduating	31	18.0	56	32.6	50	29.1	23	13.4	12	7.0	**3.41**	**1.14**	**0.33**
Doctoral dissertations should be published by the university	56	32.6	54	31.4	35	20.3	14	8.1	13	7.6	**3.73**	**1.21**	**0.32**
Lecturers follow all the stipulated rules in the supervision guideline	26	15.1	40	23.3	38	22.1	36	20.9	32	18.6	**2.95**	**1.34**	**0.45**
Supervisors consult each other over the research progress of their students	24	14.0	45	26.2	46	26.7	34	19.8	23	13.4	**3.08**	**1.24**	**0.41**
Doctoral students participate in the selection of their dissertation supervisors	23	13.4	38	22.1	42	24.4	38	22.1	31	18.0	**2.91**	**1.30**	**0.45**
Senior lecturers give better guidance during consultation than novice lecturers	22	12.8	54	31.4	58	33.7	19	11.0	19	11.0	**3.53**	**4.11**	**1.16**
Doctoral students who delay to complete their studies are penalized by the university	37	21.5	43	25.0	49	28.5	32	18.6	11	6.4	**3.37**	**1.19**	**0.35**
The number of supervisors assigned to doctoral students are adequate	34	19.8	61	35.5	41	23.8	25	14.5	11	6.4	**3.48**	**1.15**	**0.33**
Lecturers give timely feedback to doctoral students in my university	22	12.8	44	25.6	36	20.9	31	18.0	39	22.7	**2.88**	**1.36**	**0.47**
Co-authorship with my lecturers is encouraged in my university	35	20.3	53	30.8	48	29.7	19	11.0	17	9.9	**3.41**	**1.21**	**0.35**
Mentoring doctoral students depends on the cooperation of the individual student	43	25.0	61	35.5	39	22.7	16	9.3	13	7.6	**3.90**	**4.09**	**1.05**
Academic seminars and workshops should be made compulsory for all doctoral students	53	30.8	52	30.2	34	19.8	17	9.9	16	9.3	**3.63**	**1.27**	**0.35**
I am not satisfied with the assistance given to me as a doctoral student by my lecturers	26	15.1	31	18.0	38	22.1	45	26.2	32	18.6	**2.85**	**1.33**	**0.47**
Mentoring doctoral students should be infused into their lectures	52	30.2	70	40.7	25	14.5	16	9.3	9	5.2	**3.81**	**1.12**	**0.29**
Mean of means											**3.32**		

The findings in Table 21 show that 64% of the doctoral students who participated in this study agreed that their lecturers encouraged them to reflect on their future professional practice. This shows that majority of the doctoral students were encouraged to reflect about their professional lives after graduation. The findings resonate with Rodgers and Cudjce (2013) whose findings indicated that lecturers have a crucial role in the mentees' discernment of personal and vocational dream. Similarly, the findings agree with Parsonson (2011) that lecturers have a responsibility to educate and develop the next generation of lecturers and are concerned about the future of the teaching profession in higher education. It can be deduced that they do so to ensure knowledge transfer in order to sustain continuity in higher education. This study establishes that in this regard, the lecturers are acting as positive agents of knowledge transfer through mentoring doctoral students.

From Table 21, 81% of the doctoral student participants in this study perceived mentoring as important compared to 10% who disagreed and the 9% who remained undecided. The findings indicate that most of the doctoral students agreed that mentoring is important. This implies that the doctoral students who took part in this study consider the time and other resources channeled to them through mentoring as valuable. The findings brings out the importance of mentoring doctoral students and advances the assertion by Hayes and Koro-Ljungberg (2011) that there is need for mentoring relationships that support the development of both the mentor and mentee as scholars and researchers. These findings show that mentoring is the perception for engaging and changing the world where both the mentee and mentor seek opportunities, create new knowledge and solve problems collaboratively. This further advances the core principle of reciprocity of the social exchange theory (Jinyang, 2015). In the process, both parties undertake the responsibilities that come with mentoring and tolerate the inevitable

uncertainty that may come with generation of new knowledge as they leverage their intellectual capital for the social good through knowledge transfer.

Again, the findings in Table 21 show that 78% of the doctoral students who took part in this study felt that mentoring doctoral students should be allocated more time while 10% felt otherwise. The findings indicate that most of the doctoral student participants in this study may have deemed the time allocated to mentoring activities as inadequate hence the need for more time. The findings are in tandem with those which showed in earlier findings of this study that doctoral students attach a lot of importance on mentoring them. Again, the findings agree with Majiros (2013) who asserted that through the social exchange theory, formal mentoring could be used to foster career aspirations of doctoral students. These findings imply that mentoring doctoral students for knowledge transfer in higher education requires to be emphasized more.

On whether the lecturers give timely feedback to the doctoral students or not, the findings presented in Table 21 show that 62% of the doctoral students who participated in this study disagreed in comparison with the remaining 38% who agreed. The same Table presents that only 38% of the doctoral students in this study reported that their supervisors followed all the stipulated rules in the supervision guideline while 68% felt otherwise. These findings indicate that majority of the doctoral students perceived the feedback given to them by their lecturers as delayed with a minority finding the duration taken before receiving feedback as appropriate. In contrast to Sell (2008), the findings indicate that mentoring doctoral students for knowledge transfer is done to some extent though not as expected and explain the variation in the doctoral students' perception towards the timeliness of feedback given to them by their lecturers. This contradicts Sell who holds the view that mentoring within the social exchange theory must be viewed as fair especially when compared in the context of a wider network or to third and fourth

parties. Again, the disparities could be attributed to academic leadership in the departments as Ocean added that, "Our major challenge as a faculty has been that of academic leadership".

As presented in Table 21, the researcher determined the mean of the doctoral students' responses to five point scale to gauge their perception. The findings in the table show that the highest mean was 3.94 while the lowest was 1.85 on all the likert items. This implies that the doctoral students who were sampled for this study felt that mentoring doctoral students was not a waste of time and that mentoring should start at admission. These two mean statistics show that the sampled doctoral students in the sampled universities viewed mentoring doctoral students as important in ensuring knowledge transfer in higher education. Again, all the likert items had means higher than 2.50 implying that the doctoral students' perception towards mentoring for knowledge transfer in higher education was strong. This is in tandem with Bruce and Bridgeland (2014) who postulated that a need for mentoring at university level could not be overlooked. In order to determine what factors could have influenced these perception scores, the researcher will test the difference in the mean perception of the doctoral students towards mentoring for knowledge transfer in higher education when doctoral students are categorized by sex, university category, year of study and age respectively.

In 2003, Garvey and Alred contended that all mentorship programmes involved the acquisition and transfer of knowledge. Additionally, Table 21 shows that the mean of means was 3.32. Considering that the study used a likert scale of point five, any point between 2.6 and 5.0 would imply that mentoring is vital for knowledge transfer while any between 1.0 and 2.5 would imply that mentoring doctoral students cannot be relied upon for knowledge transfer in higher education. As shown in Table 16, the mean of means, 3.3 was way beyond 2.6 hence the researcher concluded that doctoral students perceived knowledge transfer in higher education as being dependent on mentoring doctoral students in the selected public and private universities.

The study sought to determine the data spread in the likert scale items and the relationship between and the rest of the data. In order to achieve this, the researcher carried out a test of standard deviation. Owing to the inability of the standard deviation to stand alone in showing clearly the relationship between the mean and the dispersion, the researcher went further and determined the coefficient of variation (CV). The decision to include the CV in this study is in accordance with the assertion by McMillan (2008) that it is a more uniform method of determining the variance of the standard deviation and what it indicates in as far as the responses to the items by the sample is concerned.

Values for the coefficient variation presented in Table 21 ranges between 0.27 and 0.95. Data on mentoring doctoral students in knowledge transfer in higher education being dependent on the cooperation of the individual student has the highest CV value of 0.95. This implies a general lack of consensus among the sampled doctoral students on this. However, in triangulating these findings with those from the interviews, most of the administrators expressed a strong feeling that the student was responsible for how much they gained from the doctoral programme. This brings into focus the individual learner characteristics which were advanced by SET (Coyle-Shapiro *et al.*, 2009). According to the findings presented in Table 16, the least CV value is 0.27 against the responses to the item that mentoring doctoral students should start at admission. The seemingly small CV value against this item shows that the data has a great deal of uniformity with respect to the mean. It also shows that there is a general consensus among the sampled doctoral students on when mentoring should begin.

4.6.1 Mean Perception Scores when Doctoral Students are categorized by Sex.

In carrying out this study, the sex of the doctoral students was among the background information that the researcher sought to establish. In this section, the study presents the results of testing the first hypothesis:

$H_0$1: There is no significant difference in mean perception scores when doctoral students are categorized by sex: $\bar{X}_{Males} = \bar{X}_{Females}$.

$H_1$1: There is a significant difference in mean perception scores when doctoral students are categorized by sex: $\bar{X}_{Males} \neq \bar{X}_{Females}$.

In order to test the first hypothesis, independent samples t-test was carried out. The results were as presented in Table 22.

Table 22

Mean Perception Scores when Doctoral Students are categorized by Sex

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Perception towards mentoring doctoral students for knowledge transfer in higher education	Equal variances assumed	1.272	.261	1.158	170	.248	.09819	.08476	-.06913	.26550
	Equal variances not assumed			1.125	137.962	.263	.09819	.08731	-.07446	.27083

According to the decision rule that guided the test of this hypothesis, if the probability (*p*-value) is less than the level of significance (α-value), the null hypothesis would be rejected. From Table 22, the p- value under the column for Levene's test for equality of variances is greater than the alpha value ($p = 0.261 > \alpha = 0.05$). Following these results, the researcher discarded the null hypothesis which states that the difference between the variances is zero. Therefore, the researcher read the *t* statistic under the row, equal variances assumed. Table 22 shows that $t = 1.158$; $df = 170$ and $p = 0.248$.

Based on the results in Table 22, $p = 0.248 > \alpha = 0.05$. Following the preset decision rule, the researcher failed to reject the null hypothesis. This implies that the *p*-value was greater than

the α-value indicating that there was no significant difference in mean perception scores when the doctoral students are categorized by sex. In this case, the researcher failed to reject the null hypothesis because the results showed that there was no significant mean difference in perception scores between male and female doctoral students. The findings imply that doctoral students perceived mentoring as a means of ensuring knowledge transfer irrespective of their sex.

4.6.2 Mean Perception Scores when Doctoral Students are categorized by Year of Study.

Having determined the difference in mean perception of doctoral student participants when they are categorized by sex, the researcher sought to establish the difference in mean perception scores when the doctoral students are categorized by year of study. This study uses this section to present the findings on testing the second hypothesis:

$H_0$2: There is no significant difference in mean perception scores when doctoral students are categorized by year of study: $\overline{X}_{First} = \overline{X}_{Second} = \overline{X}_{Third} = \overline{X}_{Fourth} = \overline{X}_{Fifth} = \overline{X}_{Sixth}$

$H_1$2: There is a significant difference in mean perception scores when doctoral students are categorized by year of study: $\overline{X}_{First} \neq \overline{X}_{Second} \neq \overline{X}_{Third} \neq \overline{X}_{Fourth} \neq \overline{X}_{Fifth} \neq \overline{X}_{Sixth}$

The findings from the testing this second hypothesis were as presented below.

Table 23

Difference in Mean Perception Scores when Doctoral Students are categorized by Year of Study

		Sum of Squares	df	Mean Square	F	Sig.
Mentoring strategies	Between Groups	3.212	5	.642	1.436	.214
	Within Groups	74.294	166	.448		
	Total	**77.507**	**171**			
Factors affecting mentoring	Between Groups	1.936	5	.387	1.176	.323
	Within Groups	54.642	166	.329		
	Total	**56.578**	**171**			
Types of mentoring	Between Groups	1.440	5	.288	.735	.598
	Within Groups	65.070	166	.392		
	Total	**66.510**	**171**			
Perception towards mentoring	Between Groups	1.540	5	.308	.621	.684
	Within Groups	82.367	166	.496		
	Total	**83.906**	**171**			
Challenges facing mentoring	Between Groups	1.724	5	.345	.960	.444
	Within Groups	59.583	166	.359		
	Total	**61.307**	**171**			
Suggestions to challenges	Between Groups	1.780	5	.356	.652	.660
	Within Groups	90.649	166	.546		
	Total	**92.429**	**171**			

The researcher used the One Way ANOVA to test the second hypothesis and yielded *p*-statistics as shown in Table 23. The study set the level of significance alpha, at $\alpha = 0.05$. The *p*-values are the evidence against which the null hypothesis was tested and were treated as the probability values. The decision rule that guided the testing of this hypothesis was that: If/when the *p*- value is less than the alpha value ($\alpha = 0.05$), then the null hypothesis, (H_0: $\overline{X}_{First} = \overline{X}_{Second} = \overline{X}_{Third} = \overline{X}_{Fourth} = \overline{X}_{Fifth} = \overline{X}_{Sixth}$), would be rejected. However, if the p- value is greater than the alpha-value, the researcher would fail to reject the null hypothesis.

According to the results presented in Table 23, all the *p*-values (0.214; 0.323; 0.598; 0.684; 0.444 and 0.660) are greater than the alpha value, $\alpha = 0.05$ which was the set level of significance. Therefore, the study fails to reject the null hypothesis and concludes that there was no significant difference in mean perception scores when the doctoral students were categorized by their years of study. However, the findings dispute Muola, Maithya and Mwinzi (2011) who established that the first and second year students were more likely to seek academic advising

than the third years. This means that the perception of doctoral students towards mentoring doctoral students for knowledge transfer in higher education in the universities where this study was conducted was not in any way influenced by the years of study of the sampled doctoral students.

4.6.3 Mean Perception Scores when Doctoral Students are categorized by Age.

This study sought to test a hypothesis to determine the age of the doctoral students had any statistical significance on their perception towards mentoring for knowledge transfer in higher education. To do so, a third hypothesis was stated thus:

$H_0$3: There is no significant difference in mean perception scores when doctoral students are categorized by age: $\bar{X}_{Group1} = \bar{X}_{Group2} = \bar{X}_{Group3} = \bar{X}_{Group4} = \bar{X}_{Group5}$.

$H_1$3: There is a significant difference in mean perception scores when doctoral students are categorized by age: $\bar{X}_{Group1} \neq \bar{X}_{Group2} \neq \bar{X}_{Group3} \neq \bar{X}_{Group4} \neq \bar{X}_{Group5}$.

Since the variable age had more than two groups, the researcher used ANOVA to test the third hypothesis and the results were as presented in Table 24.

Table 24

Mean Perception Scores when Doctoral Students are categorized by Age

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.822	4	.456	1.514	.200
Within Groups	50.241	167	.301		
Total	**52.063**	**171**			

The conditions under which the third hypothesis was tested in this study was that if/when the *p*-value is less than the chosen level of significance, then the null hypothesis would be rejected. However, if/when the p-value is greater than the established level of level of significance ($\alpha = 0.05$), then the study would fail to reject the null hypothesis. As presented in

Table 24, the F statistic, F =1.514; degree of freedom, df = (4,167): 4 degrees of freedom between groups and 167 degree of freedom within groups; and the probability, p = 0.200.

From the findings presented in Table 24 p = 0.200 is greater than the level of significance, α = 0.05. Under the pre-stated decision rule, this study fails to reject the null hypothesis and concludes that there is no significant difference in mean perception scores when doctoral students are categorized by age. The findings agree with Gorzaka (2012) that students at different age perceive the need for mentoring differently. This implies that age does significantly influence the perception of doctoral students towards mentoring for knowledge transfer in higher education.

4.6.4 Mean Perception Scores when Doctoral Students are categorized by University.

This study was carried out to make a comparison of mentoring doctoral students for knowledge transfer in higher education in a public and a private university in Kenya. In hypothesis testing, the study also sought to determine the statistical significance of the university category in the mean perception scores of doctoral students in this study. A fourth hypothesis was formulated as follows:

$H_0$4: There is no significant difference in mean perception scores when doctoral students are categorized by University: $\bar{X}_{Public} = \bar{X}_{Private}$.

$H_1$4: There is a significant difference in mean perception scores when doctoral students are categorized by University: $\bar{X}_{Public} \neq \bar{X}_{Private}$.

Since this study involved two university categories, public and private, the independent samples *T*-Test was used in testing the fourth hypothesis. The results of the test were as indicated in Table 25.

Table 25

Mean Perception Scores when Doctoral Students are categorized by University Category

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower / Upper
Perception towards mentoring doctoral students for knowledge transfer in higher education	Equal variances assumed	.917	.340	-1.094	170	.276	-.09210	.08419	-.25829 / .07409
	Equal variances not assumed			-1.096	169.593	.275	-.09210	.08401	-.25794 / .07375

Table 25 contains the main test statistics with two rows containing equal variances assumed and equal variances not assumed. According to Field (2009), parametric tests such as *T*-Test and ANOVA usually assume that the variances are roughly equal. Similarly, if/when Levene's test was significant at $p \leq 0.05$, this study would hold that the assumption of homogeneity had been violated. However, if Levene's test was not significant ($p > 0.05$, then this study would fail to reject the null hypothesis that the difference between the variances was zero.

According to the results in Table 25, Levene's test is not significant since $p = 0.340$ and therefore greater than $\alpha = 0.05$. Owing to this, the test statistic under equal variances assumed is considered. Under the equal variances assumed section, the T statistic, $t = -1.094$; degree of freedom, df = 170 with an associated two tailed registered significance level of 0. 276. The two-tailed value of $p = 0.276$ and was greater than the level of significance, $\alpha = 0.05$. In this case, the study fails to reject the null hypothesis H_0: $\bar{X}_{Public} = \bar{X}_{Private}$.

These findings indicate that the probability that there is a significant difference between perceptions of doctoral students from public and private university towards mentoring for knowledge transfer in higher education is very small. The findings tend to disagree with Horowitz and Christopher (2013) that many institutions of higher learning are confronting

seemingly unrelated needs of doctoral students. Therefore, the study concludes that there was no significant difference between the mean perception scores of doctoral students sampled from the public and private university. This implies that irrespective of the type of university where the doctoral student belonged, their perception towards mentoring doctoral students for knowledge transfer remains. As a result, the findings indicate that knowledge transfer was taking place in the sampled universities even though not as expected.

4.6.5 Mean Perception Scores when Doctoral Students are Categorized by Area of Specialization.

In the background information section in the doctoral students, the researcher requested them to indicate their area of specialization. Since the study sampled three faculties in each university, the responses given by the doctoral student participants were in three categories: Education, Arts and Commerce. The researcher used this participant characteristic as an independent variable in order to test the fifth and last hypothesis:

$H_0$5: There is no significant difference in mean perception scores when doctoral students are categorized by area of specialization: $\bar{X}_{Education} = \bar{X}_{Arts} = \bar{X}_{Commerce.}$

$H_1$5: There is a significant difference in mean perception scores when doctoral students are categorized by area of specialization: $\bar{X}_{Education} \neq \bar{X}_{Arts} \neq \bar{X}_{Commerce.}$

After conducting *F* –Test, the results were as shown in Table 26.

Table 26

Mean Perception Scores when Doctoral Students are categorized by Area of Specialization

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.345	2	1.672	5.802	.004
Within Groups	48.718	169	.288		
Total	**52.063**	**171**			

The fifth hypothesis, as the other hypotheses in this study, was tested at a significance level of 0.05. According to the decision rule that guided the testing of the fifth hypothesis, if/when the probability value, *p*-value is less than the selected level of significance; the researcher would reject the null hypothesis. This decision also required that if/when the p- value is greater than the level of significance; the researcher would fail to reject the null hypothesis. This implies that if $p > \alpha$ ($p > 0.05$), then the researcher would fail to reject the null hypothesis.

The findings presented in Table 26 indicate that the F statistic, $F = 5.802$; degree of freedom, df = (2, 169): 2 degrees of freedom between groups and 169 degree of freedom within groups; and the probability, $p = 0.004$. Since $p = 0.004$ is less than $\alpha = 0.05$, the researcher rejected the null hypothesis in favour of the alternative hypothesis. Therefore, the study concluded that there was a significant difference in mean perception scores when doctoral students were categorized by their areas of specialization. This means that the perception of doctoral students on mentoring doctoral students for knowledge transfer in higher education in the two universities where the study took place was influenced by the discipline that the individual doctoral student was pursuing. This confirms earlier findings by Fedler (2010) that demonstrated that the completion of a doctoral degree was pegged on the doctoral student's area of specialization.

Although the ANOVA test on the fifth hypothesis has shown that there is a significant difference in mean perception scores when doctoral students are categorized by area of specialization, the results do not indicate the magnitude of the difference and the underlying statistical significance of the differences. In order to address this dilemma, the researcher went further and conducted post hoc analysis. The results were as shown in Table 27.

Table 27

Output for Post Hoc Tests

(I) Faculty of Doctoral Student	(J) Faculty of Doctoral Student	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Education	Arts	.02882	.10102	1.000	-.2154	.2731
	Commerce	.30726*	.10017	.008	.0651	.5495
Arts	Education	-.02882	.10102	1.000	-.2731	.2154
	Commerce	.27844*	.09972	.018	.0373	.5196
Commerce	Education	-.30726*	.10017	.008	-.5495	-.0651
	Arts	-.27844*	.09972	.018	-.5196	-.0373

* The mean difference is significant at the 0.05 level.

In order to control Type I error, the researcher used the Bonferroni correction method for each pair of comparison because of its ability to guarantee control over the Type I error rate (Field, 2009). According to the results in Table 27, Education group is compared to the Arts group and reveals a non-significant difference (*Sig.* is greater than 0.05) but when compared to the Commerce group, there is a significant difference (*Sig.* is less than 0.05). Further still, when the Arts group is compared to the Commerce group, the findings in Table 22 indicate that there is a significant difference since the *Sig.* is less than 0.05. The findings reveal that the significant difference in mean perception scores when the doctoral students are categorized by area of specialization is caused by variations when Education is compared with Commerce and/or Arts

compared with Commerce. Otherwise, the difference in mean perception scores is not significant when the faculties of Education and Arts are paired for comparison.

4.7 Challenges facing Mentoring Doctoral Students for Knowledge Transfer

During the data collection phase, the participants raised some challenges that they felt affected mentoring doctoral students for knowledge transfer in higher education. In analyzing the responses given by participants as challenges, the researcher realized 130, 208 and 113 open codes which were later reassembled at the axial coding stage into 16, 20 and12 categories from the doctoral students' supervisors' and chairmen of departments' responses. The researcher then carried out selective coding and came up with 5, 8 and 6 core categories under the challenges raised by doctoral students, supervisors and chairmen of departments respectively. It is these core categories that have been presented in Table 28 while those from interviews have been embedded in the section as verbatim.

Table 28

Challenges facing Mentoring Doctoral Students for Knowledge Transfer

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

	f	%
Challenges Faced by Doctoral Students		
Lack of clear guidance on what should happen and when	105	61.0
Delays	80	46.5
Administrative bottlenecks and bureaucracy	68	39.5
Professional, personal and family-related challenges	56	32.6
Content complexity	14	8.1
Challenges Faced by Supervisors		
Huge workload	23	92.0
Intellectual complexity of doctoral programme for students	18	72.0
Lack of correct infrastructure for supervision	16	64.0
Lack of readership and writing culture among students	13	52.0
Absentee doctoral students	13	52.0
Diversity in topics for supervision	12	48
Lack of passion for research among doctoral students	10	40
Poor language use among doctoral students	9	36
Plagiarism	8	32
Challenges Faced by Chairmen of Departments		
Financial constraints	12	92.3
Lack of readership and writing culture among students	9	69.2
Huge supervisor workload	8	61.5
Delayed completion	6	46.1
Lack of data analysis skills	6	46.1
Overdue unpaid claims	4	30.8

According to the findings presented in Table 28, 61% of the doctoral students who took part in this study experienced lack of proper guidance. These findings portray lack of proper guidance as the most common challenge according to the responses given by the doctoral students (Johnson & Huwe, 2002). Some of the sub categories that fell under this core category included delayed feedback, delayed defenses, delayed supervisor allocation and delayed completion. Table 28 also indicates that some 46% of the chairmen of departments reported delayed completion among doctoral students in their departments. The challenge of delays was

also implied by 52% of the lecturers/supervisors who alluded to prolonged absenteeism among doctoral students.

Similar concerns were raised during the in-depth interview with an administrator who outlined this challenge in this manner:

> Yeah!..(pause)…yeah! At dissertation development level when our doctoral students start writing, serious issues emerge. I can assure you that coursework is a walkover because it is timetabled, directed, scheduled and regulated and one cannot miss class. But when it comes to dissertation writing, doctoral students are on their own with their supervisors. All the time is at the disposal of the student but if that time is not well managed, it will be very bad on the individual student (DE/M/2/2: 28, September, 2015).

The quote above implies that some causes of delayed completion of the doctoral programme could be attributed to individual doctoral students-related factors. Some of the personal factors that can infiltrate into the completion pace of the doctoral student were highlighted by another administrator who added that, "Over eighty percent of our doctoral students are in full time employment elsewhere. They are left with very limited time to focus on their studies". The findings advance those from Amimo (2012) which indicated that doctoral students fail to complete their studies within stipulated time due to full time job commitments. In this regard, the findings seem to dispute Nakanjako *et al.*, (2014) who postulated that majority of the delayed completion cases were as a result of lack of mentoring. This study finding portray that there are other factors that come into play.

Table 28 also shows that there were 61% of the doctoral students who were discontented with the guidance given. This means that majority of the doctoral students who participated in this study were not satisfied with the guidance they were receiving from their supervisors. The

researcher linked this concern with that of heavy workload which was raised by 92% and 62% of the supervisors and chairmen of departments who participated in this study respectively.

In order to determine what could be causing the overload, the researcher probed one of the administrators during the interview when the issue came up. The administrator, explained that:

> The large numbers of doctoral students is overstretching the staff and I want to add that this is a countrywide phenomenon in almost every university in Kenya. The acute lecturer shortage is not something unique to our university alone. As a result, we experience work overload which spills over to supervision of doctoral students as well (DE/M/1/5: 2, November, 2015).

According to the explanation given by the administrator, the work overload is caused partly by the acute lecturer shortage at the universities. This is in agreement with Gudo *et al.,* (2011) who expressed that with the rapid massification of university education in Kenya over the past five years, the university teaching staff has been overstretched. If this is the case, then knowledge transfer in these universities cannot be smooth either.

Still on the same, the researcher sought the view of another administrator who noted that:

> In our university here, the supervision load is almost silent yet reading a 100 page document word for word and commenting is not an easy thing. You may find that you have up to 10 doctoral students before bringing the masters cohort on board. So...the definition of workload needs to be revisited to make it inclusive of supervision which takes quite a chunk of our time (DE/M/2/2: 28, September, 2015).

The response given by the administrator during the interview shows that the supervisors were overstretched in as far as supervising the doctoral students was concerned. This could imply that there were fewer lecturers qualified to supervise doctoral students (Mudhovozi *et al.*, 2013) or

there were large numbers of doctoral students enrolled in the universities (Wesangula, 2014) or both.

According to the findings presented in Table 28, 72% of the supervisors who took part in this study cited complexity of doctoral programmes as a challenge faced by their mentees. This means that most of the supervisors had noted difficulties related to content among their doctoral students. Similar sentiments on the complexity of content were expressed by 8% of the doctoral students themselves. Although the findings from these two groups seem to be far apart, it is possible that some doctoral students may have shied away from disclosing their true position. This is particularly so considering that during the interviews, most of the administrators indicated that the intellectual inability of some individuals getting admission into the doctoral programme is responsible for the menace in the higher education currently. This agrees with Mudhovozi *et al.*, (2013) that some students submit unedited work, lack mastery of expression in English and are unable to ingest the demands of research. This study accepted the views of the 72% of the supervisors as painting a clearer picture. This was informed by the fact that these are the principal persons who deal with the doctoral students on a one on one basis. There were also 32% of the supervisor participants who cited plagiarism by doctoral students as a challenge. This furthers the findings in the earlier section of the study which pointed out that some doctoral students lacked the intellectual capability to manage the doctoral programme. Owing to this, it is imperative that adequate time be allocated to every activity intended for the mentoring relationship.

4.8 Suggested Ways of Addressing Challenges

In this last section of this chapter, the study presents the suggested measures that can be taken to mitigate the challenges facing mentoring doctoral students for knowledge transfer in higher education. In the first section, suggestions made by the various participant groups have

been presented. The last section presents the overall recommendations made by the study as a way of improving theory and practice of mentoring doctoral students for knowledge transfer in higher education.

Table 29

Suggested Ways of Addressing Challenges

(n_1 = 172 Doctoral Students; n_2 = 25 Supervisors; n_3 = 13 Chairmen)

Participant group and their Suggestions	Frequency	Percent
Doctoral Students		
Improve communication channels	102	59.3
Formalize mentoring programme for doctoral students	96	55.8
Allocate lecturers fewer students for supervision	87	50.6
Teach APA in coursework	68	49.5
Encourage peer mentoring between continuing and new students	59	34.3
Supervisors		
Hire more lecturers to reduce workload	21	84.0
Make Publication mandatory before graduation	20	80.0
Implement stricter admission requirements for PhD	19	76.0
Provide funding for doctoral activities	16	64.0
Include supervision load in the official workload	13	52.0
Chairmen of Departments		
Tighten admission criteria for doctoral programmes	11	85
Hire more lecturers to reduce supervisor workload	8	62
Train supervisors from time to time on discipline-specific supervision	7	54
Adhere to completion timelines strictly	6	46
Cultivate readership and writing culture at lower levels of education	5	38
Pay lecturers/supervisors promptly	5	38

The findings in Table 29 show that 56% of the doctoral students who participated in this study suggested that mentoring should be formalized. This indicates that majority of the doctoral students felt that mentoring given to them in their universities was not formal. Again, these findings are in harmony with those in an earlier section of this report which showed that mentoring in the selected universities was two-fold: formal and informal. This could imply that in the selected universities, mentoring doctoral students for knowledge transfer was not

following a strict laid down structure. This study has shown that there is need to harmonize practices encompassed in mentoring doctoral students if knowledge transfer is to be realized in the institutions of higher learning.

The in-depth interview findings did not deviate from these findings as one administrator added that there was need to "...have a structure of how we do mentoring. Other than lecturers mentoring students, we should also have senior students mentoring their juniors. All these need to be well stipulated and explained". The position taken by the administrator here add to the 34% of the doctoral students who suggested that peer mentoring should be encouraged between continuing and newly admitted doctoral students. This would avert what another administrator described during an interview as: "a lack of collegiate responsibility by doctoral students today". This however contradicts (Mullen (2006) who advanced that doctoral students appreciate and rate collegial mentoring relationship as the first priority. The findings could be pointing to the need to fully define the requirements for collegial mentoring among doctoral students. Therefore, a well-structured mentoring programme for doctoral students is timely if the society is going to witness more knowledge transfer within higher education in the Kenyan context.

Allocating supervisors fewer students for supervision has been proposed by 51% of the doctoral students. This has been backed up with 84% and 62% of the supervisors and chairmen of departments respectively who recommended that there was need to hire more lecturers to reduce the heavy workload borne. The students' experience with the supervisors may have informed their suggestions while the supervisors and chairmen of departments, personal experiences in their universities may have dictated their suggestion as well.

In the interview with one of the administrators, the issue of addressing lecturer shortage was responded to as follows.

> I must admit that to address the lecturer shortage, the most attractive alternative is to depend on part time lecturers. However, I want to reiterate that a long lasting means of averting this dilemma is by striving to recruit qualified and competent teaching staff. To attract quality, we must also produce quality. This is the reason why we rely on our doctoral programme as a staff development platform (DA/M/4/4: 1, October, 2015).

Similar sentiments came from another administrator who added that it was not only imperative to aggressively recruit competent and qualified staff, but it was also important to retain them. However, a completely different scenario was presented by yet another administrator who during the interview revealed that despite the lecturer shortage, "...as a faculty, we do not assign part time lecturers our doctoral students for supervision. This is not acceptable particularly in our faculty as a measure to uphold quality in terms of preparing doctoral students". This implies that the quality of doctorates produced depends highly on the quality of preparation given to the doctoral students which in turn depend entirely on who gave the preparation.

From the in-depth interviews, here is how one administrator commented about the complexity of the doctoral programme for some doctoral students:

> Some of the doctoral students are not intellectually gifted, they cannot bear the demands of the programme and have to discontinue. It is very sad that nowadays anybody can pursue a doctorate anywhere. This is what is watering down our higher education system as a nation. If you asked me, only the best intellectually should be admitted into the programme. It should not be like an open market for bargaining" (DE/M/1/5: 2, November, 2015).

The interview finding supports the 76% of the supervisors and 85% of the chairmen who suggested that the university councils should put in place stricter measure for admitting individuals into the doctorate programme. This implies that some of the challenges faced by

doctoral students could be overcome if the programme remained a reserve for individuals with the intellectual endowment. For example, 80% of the supervisors echoed the need to make publication a mandatory requirement before award of doctorate. This will minimize cases of "research phobia", (DA/M/4/4: 1, October, 2015), that is contributing to sustained delays in completion of doctoral studies in the selected universities.

There were 54% of the chairmen of departments who suggested that training supervisors from time to time on discipline-specific requirements for supervision was imperative. This indicates that majority of the chairmen of departments felt that the lecturers in their departments required to upgrade their supervision expertise. This sharply contradicts the view from the interview where one administrator pointed out that, "Every lecturer is by default a mentor and supervisors are also mentors". According to this assertion by the administrator, any teaching staff in the university is a mentor. However, the finding appears to go against (Nakanjako *et al.*, (2014) that all supervisors need to be exposed to trainings from time to time to keep them abreast with current trends in the mentoring doctoral students for knowledge transfer in higher education.

However, findings from the interviews portrayed a completely different view. For example, in the excerpt below, one administrator showed an alternative position:

> I want to clear the false notion that any PhD holder can supervise doctoral students. My stance is that: the fact that somebody has PhD does not qualify them to supervise PhD students. Such fellows should work with a professor as apprentices for some time while learning the rules of the trade. The sad reality is that with the perpetual shortage of professors in our universities, this is often not the case (Mn.DB/M/1/1: September, 2015).

The excerpt from the interview with the administrator agrees with studies which showed that majority of mentors do not receive training on how to supervise doctoral dissertation (Johnson &

Huwe, 2002; Mudhovozi *et al.* 2013). Perhaps if universities could take it upon themselves to develop supervision skills in their lecturers, then the issue of lecturer shortage, huge supervision loads could be addressed. Again, this would help in ensuring sustained quality in the supervision process. In the end, the doctoral students would produce quality research output besides receiving the best attention from their supervisors. If supervision is just an aspect of mentoring doctoral students, then these findings insinuate that lecturers require training on mentoring doctoral students for knowledge transfer in higher education.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

5.1 Introduction

In this chapter, the summary of the study, conclusions and recommendations on mentoring doctoral students for knowledge transfer in higher education have been presented. The study findings in the previous chapter have informed all the sections presented in this chapter.

5.2 Summary of the Study

The purpose of this study was to investigate how mentoring doctoral students can contribute towards knowledge transfer in higher education by comparing a public and a private university in Kenya. The impetus to carry out this study germinated from the researcher's personal life experiences with mentors and the keen observation that there is an accelerated expansion of universities. The expansion of universities has led to dire need for more lecturers amid a social outcry on the waning quality of higher education. Calls have been made summoning training on mentoring, an increased mutual understanding on various aspects of mentoring and timely completion of studies by doctoral students within stipulated time in universities.

In carrying out this study, mixed methods research approach, a blend of both qualitative and quantitative paradigms was used. The choice of the research design enabled the study to implement both the qualitative and quantitative methods simultaneously through collection and analysis of data concurrently. In terms of weighting, the quantitative paradigm was more dominant over the qualitative design which was nested in the former while data mixing was introduced at the data analysis phase. The study used the cross sectional survey and phenomenology designs from the quantitative and qualitative research paradigms respectively.

This study used the nested design as a sub type of the mixed triangulation method where phenomenology, the qualitative paradigm component was nested within cross sectional, the quantitative paradigm component.

The study targeted Deputy Vice Chancellors, Academic Affairs, Directors of Boards of Postgraduate Studies, Faculty Deans, Chairmen of Departments, Supervisors and Doctoral Students in the two selected universities in Kenya. In order to arrive at a representative and manageable sample, the researcher employed both probability and non-probability sampling techniques. Basing on the assumption that in-depth interviews with a few "key" participants who are particularly knowledgeable and articulate would provide insights and understandings about the study problem, the researcher selected key informants purposively. A total sample size of 250 was drawn comprising of 192 doctoral students, 30 supervisors, 18 chairmen of departments, three Faculty Deans, two directors of Boards of Postgraduate Studies and two Deputy Vice Chancellors, Academic affairs.

The study used questionnaire, interview guide, and document analysis guide to collect data from the participants. There were three questionnaire sets which were administered to doctoral students, supervisors and chairmen of departments respectively. The interview guides were administered in an in-depth interview with the selected key informants. In order to establish validity, the researcher subjected the instruments to rigorous examination. To uphold content and face validity of the questionnaire and interview guide, the study made use of five Subject Matter Experts (SMEs).

The researcher determined the reliability coefficient by computing split half electronically. The first half had 0.59 while the second half had 0.72. Thereafter, reliability was determined using the Spearman Brown Prophecy formula to adjust the half test reliability to full test reliability and the full test reliability was established at 0.81 (Gutman split-half). In order to

achieve conformability of qualitative data, a reflective journal was kept by the researcher on all events that happened in the field, as well as the researcher's personal reflections in relation to the study. The qualitative data was presented in both emic and etic forms with the former dominating over the latter. The emphasis of emic data enabled the study to capture language, expressions, terms and explanations as communicated by the participants during the interviews.

Data analysis involved both quantitative and qualitative techniques. Quantitative data was analyzed using both descriptive and inferential statistics electronically using SPSS while qualitative data was manually. Inferential statistics aided the study in testing five hypothesis using *T*-Test and ANOVA. Results from quantitative data analysis were presented as means, frequencies, percentages and ratios in tables while those from qualitative data were presented as rich descriptive narratives and direct verbatim where appropriate.

The key study findings indicated that:

- Most of the doctoral students who participated in this study were not aware of any specific programmes for mentoring doctoral students existed in their university or not in both universities. When compared to the numbers that expressed awareness on the existence of a mentoring programme for them, the number that indicated lack of such awareness was higher without factoring in the year of study.
- Mentoring doctoral students was packaged in the forms of: supervision, conferences, benchmarking, teamwork, consultation, job recommendation, and presentations. Presentations were relied on to promote knowledge transfer in higher education through activities such as publication and conferences. Supervision was the most popular mentoring strategy, thus a core strategy in mentoring doctoral students for knowledge transfer in higher education.

- Although publication is a policy requirement by the Commission for University Education in Kenya, the universities where this study took place are yet to put it fully into practice. This study established that all the interviewees knew about the publication requirement by the Commission for University Education even though the policy was not fully operational in the selected universities.
- Mentoring doctoral students for knowledge transfer in higher education was affected by factors related to the students themselves, their supervisors and institutional. Even though the doctoral degree is a three year programme, some of the doctoral students who took part in this study were in the fourth, fifth and in some instances, sixth years of study. Timelines were not strictly adhered to in as far as the doctoral students' academic life was concerned in both universities.
- Knowledge sharing is a key element of knowledge transfer. However, very few doctoral students offered academic guidance to the junior students in the undergraduate and Master's programmes within the selected universities. These few doctoral students who had given academic guidance to junior students were all either in their second or third years of study.
- Mentoring is a multifaceted phenomenon that has varied interpretations and understandings among educational administrators. It has a transitional function and is developmental process that mentoring nurtures talent beyond the profession through its apprenticeship nature.
- There was a very thin line between formal and informal mentoring in the two universities in as far as mentoring doctoral students for knowledge transfer was concerned. Lecturers in both universities were giving their doctoral students both formal and informal mentorship. The mentoring given to doctoral students in these two universities

encompasses several components and ranges from the formal academic guidance to informal sharing over a cup of tea or coffee.

- Perception of doctoral students towards mentoring them for knowledge transfer in higher education was very highly positive. Doctoral students in this study perceived time spent in mentoring doctoral students as well spent and that the exercise should start at admission. They viewed mentoring doctoral students as important in ensuring knowledge transfer in higher education. The area of specialization of the doctoral students was the only background characteristic that significantly affected the difference in mean perception score among doctoral students.
- Supervisors were concerned about the future of the teaching profession in higher education hence offered encouragement to ground support for its continuity. This study established that in the selected universities, supervisors were positive images of educators in higher education.
- There were many factors that can contribute to delayed completion of the doctoral programme within the selected universities. Some of these include time, individual doctoral students-related factors such as 'research phobia', too many duties at work place, financial constraints, laziness and a general lack of seriousness. However, some of delays are institutional-based and include: waiting for quorum to make presentations, lack of proper direction on what is expected, postponement of defenses, poor communication and very busy supervisors.
- There was a general lack of collegiate responsibility by doctoral students in the two universities. This is partly caused by the fact that anybody can pursue doctoral studies anywhere in the country. As a result, some individuals with wanting intellectual abilities have found themselves grappling with the doctorate programme.

- Huge supervisor workload, lack of readership and writing culture among doctoral students, language issues and financial burden are some of the challenges that lecturers and supervisors highlighted that they face in mentoring doctoral students. Doctoral students cited prolonged delays, lack of proper guidance, water tight bureaucracy, personal and family related issues and content complexity as their most outstanding challenges. The chairmen struggled with lecturer shortage, delayed completions, lack of data analysis skills among doctoral students and delayed payment of supervisor claims by their universities.
- It emerged from the study that supervisors should be trained from time to time to refresh their supervision skills. This would adequately address notion that any teaching staff in the university is a mentor is a fallacy which can only be corrected by doing the right thing: training supervisors within the university at departmental level(s).

From the study's main findings, it was established that the quality of doctorates produced depends highly on the quality of preparation given to the doctoral students which in turn depend entirely on who is giving the preparation. This places a lot of emphasis on mentoring as a tool for empowering doctoral students so that knowledge transfer can be guaranteed. Mentoring builds up the academic world with experts in various academic fields thus making it a good relationship with doctoral students and advancing knowledge transfer for the future generations. By contributing to future generations, mentors may get to secure a sense of academic immortality.

5.3 Conclusions

Using the main findings of this study as the back drop, the researcher concluded that:

Educational administrators are key contributors to mentoring doctoral students for knowledge transfer in their respective universities as mentors. The administrator, apart from infusing mentoring doctoral students into their policy statements, can also use entry points during admission or orientation sessions to create awareness of the availability of mentoring for doctoral students in both public and private universities. This can help arrest the lack of awareness about mentoring programmes available among the doctoral students. Irrespective of their year of study, a deliberate and conscious awareness needs to be carried out to inform all doctoral students about the availability of mentoring programme specifically designed for them in their respective universities.

Supervision and class presentations were the most popular mentoring strategies used in mentoring doctoral students for knowledge transfer in the selected universities. If other strategies could be used fully along with the two popular ones, knowledge transfer in higher education would be enhanced.

Mentoring is a multifaceted phenomenon. This study concluded by coining a definition of mentoring as: All the academic and non-academic activities between the doctoral student and a lecturer aimed at strengthening the personal, professional and academic progress of both parties.

There was a very thin line between formal and informal mentoring. Similarly, there was no difference in the type of mentoring offered to the doctoral students in the public and private universities selected for this study. Both universities have the infused version of both formal and informal mentoring in the recipe of mentoring that doctoral students are receiving for knowledge transfer. Therefore, there is knowledge transfer taking place in the selected universities.

Perception of doctoral students towards mentoring for knowledge transfer in higher education is very positive. Mentoring is a tool for knowledge transfer in higher education and was dependent on the cooperation of the individual doctoral student or not. Mentoring should begin as soon as one gets admission into the doctoral programme. The area of study of a doctoral student influences the latter's mean perception score towards mentoring doctoral students for knowledge transfer in higher education

The theories of mentoring used and reviewed in this study lacked time as an element of mentoring doctoral students for knowledge transfer in higher education. This study however established that time is a major factor in the academic and professional life of the doctoral students. Time bound theory of mentoring could be advanced for use in mentoring doctoral students for knowledge transfer in higher education.

5.4 Recommendations

Guided by the main study findings and the conclusions made from these, the researcher would like to make the following recommendations. The recommendations are directed to the various specified stakeholder categories for the betterment of mentoring doctoral students for knowledge transfer in higher education:

The Commission for University Education should issue a specific timeline to guide the implementation of the policy requirement on publication in all Universities across the country. A follow up (monitoring and evaluation) should also accompany the implementation at every single step.

This study recommends that university management boards seriously consider factoring in the mentoring infrastructure in their fiscal budgets for all departments in the university. The admission criteria into the doctoral programmes should be made stricter. Individual university management boards should embark on a path to review the admission criteria for all doctoral programmes. Most importantly, the universities should ensure that all the policies they formulate are implemented fully.

The DVCs, Academic Affairs, in whose docket lies the academic pillar of each university should structure a formal guide on mentoring doctoral students for knowledge transfer. Such a guide should be implemented uniformly in all doctoral programmes across the university.

It is necessary for the Deputy Vice Chancellors, Academic Affairs to initiate a strategy on harmonizing and standardizing requirements for all doctorate programmes at faculty levels. This calls for putting the right measures in place to ensure that quality is upheld in all disciplines across the university and timelines adhered to.

All Faculty Deans should ensure that training sessions for supervisors are availed from time to time to refresh supervision skills in their respective faculties. Bearing in mind the weight accorded to supervision within the mentoring equation, this study recommends that all Faculty deans should develop clear guidelines for supervision training. These guidelines should also include timelines as proposed by the TBMT on how often the supervisors should be subjected to such trainings. This can help in ensuring that there is a general consensus and uniformity in each faculty is as far as supervision is concerned.

Chairmen of departments need to hold the supervisors accountable and responsible by following up on the periodic reports on the progress of each doctoral student. The chairmen should cultivate a positive attitude towards the academic leadership role entrusted to them. They can do so by adapting an open door policy and striving to improve communication channels that they use in reaching out to the doctoral students and their supervisors.

There is need to cultivate the use of the other salient forms of mentoring alongside supervision. This study recommends that supervisors should embrace all other forms such as conferencing, presentations, benchmarking and teamwork in mentoring doctoral students for knowledge transfer in higher education.

For purposes of sustainable knowledge transfer in higher education, doctoral students should respond with a sense of urgency to the need for them to not only share knowledge among themselves, but also offer academic guidance to those in lower levels. Doctoral students should also cultivate a culture of reading as well as writing. In so doing, the elements of research phobia will be overcome and with time, such individuals will find all that pertains to research, including reading and writing to be very fascinating.

Under the TBMT, each phase would last for a period of one academic year. If these phases are strictly adhered to, then time wastage is likely to be avoided. In the long run the

doctoral students are most likely to complete their studies within stipulated time. While applying the TBMT to mentor doctoral students, ensuring that the specified activities under each phase are carried out would ensure that knowledge transfer is achieved within the context of higher education.

5.5 Suggestions for Further Research.

Taking into account restraining factors such as the scope of this study, all aspects pertaining to mentoring doctoral students for knowledge transfer in higher education while comparing a public and a private university in Kenya could not be exhausted beyond doubt. Due to this, the researcher recommends that further research be carried out in the following areas:

- Effect of mentoring on completion rates of University masters students in private Kenyan universities.
- Effectiveness of supervisor training on mentoring doctoral students for knowledge transfer in Kenyan universities.
- Implications of mentoring undergraduate students for sustained readership and writing culture in Kenya.

REFERENCES

Academic Ranking of World Universities. (2015). Accessed on 25/02/2015 from: http://www.academicrankingofworluniversities.htm

Alderson, P., & Morrow, V. (2011). *The ethics of research with children and young people.* London: Sage Publications.

Alexander, A. (2006). *The Pimlico Connection: Evaluating 30 years' success of the Pimlico Connection.* London, England: The Imperial College London.

Allen, T.D. & Eby, L.T. (2007). *The Blackwell handbook of mentoring: A multiple perspectives approach.* West Sussex: John Wiley and Sons.

Aloka, P.J.O. & Ndeke, F.N. (2013). The effects of e-mentoring on self-efficacy and academic achievement: A study of selected students from two girls' high schools in Nairobi County, Kenya. *Psychology and Social Behaviour Research, 1*(3), 44-51.

American Psychological Association. (2010). *Publication manual of the APA.* (6th ed.). Washington, DC: Author.

American Psychological Association. (2015). *Ethical principles*. (6th ed.). Washington, DC: Author.

Amimo, C.A. (2012). Tailoring higher education in Kenya to the demands of the postindustrial workplace. *Baraton Interdisciplinary Research Journal, 2*(1), 52-58.

Anney, V.N. (2014). Ensuring the quality of findings of qualitative research: Looking at trustworthiness criteria. *Journal of Emerging Trends in Educational Research and Policy Studies, 5*(2), 272-281.

Artino, A. R.., La Rochelle, J.S., Dezee, K.J. & and Gehlbach, H. (2014). Developing questionnaires for educational research: AMEE guide No. 87. *Medical Teacher, 36* (6), 463-474. doi:10.3109/0142159X.2014.889814. Accessed on 4/6/2015 from: http://dx.doi.org/10.3109/0142159X.2014.889814.

Atherton, J. S. (2005). *Learning and teaching: Knowles' Andragogy: An angle on adult learning.* Accessed on 26/8/2015 from: http://www.learningandteaching.info/learning/knowlesa.htm

Awuor, E. (2013). The African knowledge transfer partnership (AKTP): Challenges and achievements. *Journal of Economics and Sustainable Development, 4*(5), 1-5.

Berberet, J. (2008). *Perceptions of early career faculty: Managing the transition from graduate school to the professional career*. New York, NY: TIAA-CREF Institute.

Bergerson, A., & Peterson, K. (2009). CARES: Mentoring through university outreach. *Journal of Higher Education Outreach and Engagement, 13*, 45-64.

Berthound, R. (2000). *Introduction: The dynamics of social change.* Bristal: Policy Press.

Bitsch, V. (2005). Qualitative research: A grounded theory example and evaluation criteria. *Journal of Agribusiness, 23*(1), 75-91.

Bittlestone, R. Diggle, J. & Underhill, J. (2005). *Odysseus unbound: The search for Homer's Ithaca.* Cambridge, England: Cambridge University Press.

Blaikie, N. (2010). *Designing social research: The logic of anticipation.* (2nd ed.). Cambridge, England: Polity Press.

Blanden, J., & Machin, S. (2004). Educational inequality and the expansion of UK higher education. *Scottish Journal of Political Economy, 51*(2), 230-249.

Blau, P. M. (1964). *Exchange and power in social life.* New York: John Wiley & Sons.

Bouquillon, E. A., Sosik, J. J., & Lee, D. (2005). It's only a phase: Examining trust, identification and mentoring functions received across the mentoring phases. *Mentoring and Tutoring, 13*, 239–258.

Bowen, G.A. (2005). Preparing a qualitative research-based dissertation: Lessons learned. *The Qualitative Report, 10*(2), 208-222.

Bowlby, J. (1979). *The making and breaking of affectional bonds.* London, England: Routledge.

Bowlby, J. & Ainsworth, M. (1991). Attachments and other affectional bonds across the life cycle. In C.M. Parkes, (ed.). *Attachment Across the Life Cycle*. London, England: Routledge.

Bratianu, C. (2010). A critical analysis of Nonaka's model of knowledge dynamics. *Electronic Journal of Knowledge Management, 8*(2), 193-200.

Brewerton, A. (2002). Mentoring. *Liber Quarterly*, 12, 361-380.

Bruce, B. & Bridgeland, J. (2014). *The mentoring effect: Young people's perspectives on the outcomes and availability of mentoring.* New York, NY: MENTOR.

Bryant-Shanklin, M. & Brumage, W.W. (2011). Collaborative responsive education mentoring: Mentoring for professional development in higher education. *Florida Journal of Educational Administration and Policy, 5*(1), 42-56.

Budge, S. (2006). Peer mentoring in post-secondary education: Implications for research and practice. *Journal of College Reading and Learning, 37*(1), 73-87.

Burg, C.A. (2010). Faculty perspectives on doctoral students mentoring: The mentor's Odyssey. *Graduate Theses and Dissertations.* Accessed on 10/02/2015 from: http://scholarcommons.usf.edu/etd/1582

Campbell, T. A., & Campbell, D. E. (2002). Programmatic elements that enhance the mentoring relationship. In F. K. Kochan (Ed.), *The organizational and human dimension of successful mentoring across diverse settings* (pp. 69–82). Greenwich, CT: Information Age Publishing.

Carden, A. D. (1990). Mentoring and adult career development: The evolution of a theory. *The Counseling Psychologist, 18*(2), 275-299.

Carmines, E. G. & Zeller, R.A. (1991). *Reliability and validity assessment*. Newbury Park: Sage Publications.

Catholic University of Eastern Africa. (2005) *A handbook for postgraduate studies*. Nairobi, Kenya: CUEA publications.

Catholic University of Eastern Africa. (2008). *Programme of studies: 2008-2012*. Nairobi, Kenya: CUEA Press.

Catholic University of Eastern Africa. (2012). *CUEA staffing manual*. Nairobi, Kenya: CUEA Press.

Centre for Excellence in Teaching. (2013). *Mentoring university students: Mellon academic mentoring support project.* Accessed on 10/02/2015 from http://cet.usc.edu/resources/teaching_learning/docs/

Chika, J.I. & Nkechi, M. (2011). Managing students' mentoring services in Nigerian universities. *European Journal of Educational Studies, 3*(2), 399-405.

Chumba, S.K. & Kiprop, C. (2014). Teacher preparation in public universities in Kenya: Challenges and mitigation. *International Journal of Education and Research, 2*(6), 113-124.

Clutterbuck, D. (2001). *Everyone needs a mentor* (2nd ed.). London, England: CIPD.

Cocks, A. (2006). The ethical maze: Finding an inclusive path towards gaining children's agreement to research participation. *Childhood, 13,* 247-266.

Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). New York, NY: Routledge.

Colvin, J.W. & Ashman, M. (2010). Role, risk, and benefits of peer mentoring relationships in higher education. *Mentoring and Tutoring: Partnership in Learning, 18*(2), 121-134.

Commission for Higher Education. (2008). *Guidelines for preparing regulations for doctoral degree programmes*. Nairobi, Kenya: Government Printers.

Commission for University Education. (2013). *The commission for university education strategic plan 2014-2018*. Nairobi, Kenya: Government Press.

Commission for University Education. (2014). *University standards and guidelines*. Nairobi, Kenya: Government Printer.

Cook, K. (2000). Charting futures for sociology: Structure and action. *Contemporary Sociology,* 29, 685-92.

Crawford, K. & Smith, D. (2005). The we and the us: Mentoring African American women. *Journal of Black Studies, 36*(1), 52-67.

Creswell, J.W. (2009). *Research design: Qualitative and quantitative and mixed methods approaches* (3rd ed.). Los Angeles, London, New Delhi, Singapore: Sage.

Creswell, J.W. & Plano-Clark, V.L. (2006). *Designing and conducting mixed methods research.* Thousand Oaks, CA: Sage.

Crisp, G. & Cruz, I. (2009). Mentoring college students: A critical review of the literature between 1990 and 2007. *Research in Higher Education*, 50, 525–545.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management, 31*(6), 874-900.

Darwin, A. & Palmer, E. (2010). Mentoring circles in higher education. *Higher Education Research and Development, 28*(2), 125-136.

Delamont, S., Atkinson, P., & Parry, O. (Eds.). (2005). *Supervising the doctorate: A guide to success* (2nd ed.). Bristol, PA : Open University Press.

De Vries, J. (Ed.). (2005). *More than the sum of its parts: 10 years of the leadership development for women programme at UWA.* Perth, Australia: The University of Western Australia.

Dietz, A.J., Jansen, J.D. & Wadee, A.A. (2006). *Effective PhD supervision and mentoring.* Pretoria, South Africa: UNISA Press.

Douglas, C.A. (1997). *Formal mentoring programmes in organizations: An annotated bibliography*. North Carolina, NC: Centre for Creative Leadership.

Durannczyk, I.M., Franko, J., Osifuye, S., Barton, A. & Higbee, J.L. (2015). Creating a model for graduate student inclusion and success. *Contemporary Issues in Education Research, 8*(3), 147-158.

Ehrich, L.C., Hansford, B., & Tennent, L. (2004). Formal mentoring programs in education and other professions: A review of the literature. *Educational Administration Quarterly, 40*(4), 518-540.

Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2, 335-362.

Eshiwani, G. (2009). University expansion in Eastern Africa: Challenges and options in higher education. *Inter-University Council for East Africa, (IUCEA), Newsletter 39*, 17-22.

Farganis, J. (2011). *Readings in social theory* (6th ed.). New York, NY: McGraw-Hill.

Farh, J. L., Hackett, R., & Liang, J. (2007). Individual-level cultural values as moderators of perceived organizational support-employee outcome relationships in China: Comparing the effects of power distance and traditionality. *Academy of Management Journal*, (50), 715-729.

Feeney, B.C. & Collins, N.L. (2000). A safe haven: An attachment theory perspective on support seeking and care giving in adult romantic relationships. *Journal of Personality and Social Psychology, 78*(6), 1053-1073.

Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record, 105*(7), 1015-1055.

Felder, P. (2010). On doctoral student development: Exploring faculty mentoring in the shaping of African American doctoral student success. *The Qualitative Report, 15*(12), 455-474.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London, England: Sage Publications.

Fink, A., ed. (1995). *How to measure survey reliability and validity v. 7*. Thousand Oaks, CA: Sage

Fishbein M. & Ajzen I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fowler, F. J. (2009). *Survey research methods*. (4th ed.). Thousand Oaks, CA: Sage.

Foxcroft, C., Paterson, H., le Roux, N., & Herbst, D. (2004). *Human sciences research council, psychological assessment in South Africa: a needs analysis*: Retrieved from http://www.hsrc.ac.za/research/output/outputDocuments/1716_Foxcroft_Psychologicalassessmentin%20SA.pdf.

Funteh, M.B. (2015). Dimensioning indigenous African educational system: A critical theory divide discourse. *International Journal of Humanities and Social Sciences, 5*(4), 139-150.

Ganah, A., Pye, A. & Hall, G. (2008). The role of knowledge transfer in sustainability research in the built environment discipline. *In:* Dainty, A (Ed) *Procs 24th Annual ARCOM Conference,* 1-3 September 2008, Cardiff, UK, Association of Researchers in Construction Management, 299-307.

Gardiner, M. (2005). *Making a difference: Flinders University mentoring scheme for early career women researchers.* Adelaide: The Flinders University: Staff Development and Training Unit.

Garvey, B., & Alred, G. (2003). An introduction to the symposium on mentoring: Issues and prospects. *British Journal of Guidance and Counseling, 31*, 1-9.

Garwe, E.C. (2015). The status quo of doctoral education in Universities in Zimbabwe. *Journal of Studies in Education, 5*(3), 22-37.

Gorard, S. (2012). Mixed methods research in education. *In mixed methods in educational research: Report from the March Seminar 2012.* The Research Council of Norway.

Gorzka, G. (2012). *Knowledge transfer: The new core responsibility of higher education institutions. practice and perspectives in Russia and Germany.* Kassel: Kassel University Press. Retrieved on 24/2/2015 from http://dspace.mit.edu/bitstream/handle/1721.1/3957/IB_Putting?sequence=2

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today, 24*(2), 105-112. doi: 10.1016/j.nedt.2003.10.001

Gray, M. M., & Gray, W.A. (1990). Planned mentoring: Aiding key transitions in career development. *Career Planning and Adult Development Journal* 6:3, 1990, pp. 27-32.

Greenaway, D., & Haynes, M. (2003). Funding higher education in the UK: The role of fees and loans. *The Economic Journal 113(485):* F150-F166.

Griffin, K.A. (2012). Learning to mentor: A mixed methods study of the nature and influence of Black professors' socialization into their roles as mentors. *The Journal of the Professorate, 6*(2), 28-58.

Gudo, C.O., Oliel, M.A. & Oanda, I.C. (2011). University education in Kenya and issues of quality education: Challenges and opportunities. *International Journal of Business and Social Sciences, 2*(20), 203-214.

Hall, L.A. & Burns, L.D. (2009). Identity development and mentoring in doctoral education. *Havard Educational Review, 79*(1), 49-70.

Hammersley, M. & Traianou, A. (2012). *Ethics and educational research.* London, England: British Educational Research Association.

Harris, S. (2002). Student perceptions of the mentoring relating in higher education. In F. K. Kochan (Ed.), *The organizational and human dimension of successful mentoring across diverse settings* (pp. 53–68). Greenwich, CT: Information Age Publishing.

Harris, K., & Calma, A. (2009). *Evaluating university-to-school peer mentoring in science: The influence of the in science program in Victorian schools*: Melbourne: Centre for the Study of Higher Education, The University of Melbourne.

Harris, K., & Shaw, J. (2006). *Longitudinal evaluation of the STAR Peer Tutoring Programme: Final report*. Melbourne: Centre for the Study of Higher Education, The University of Melbourne.

Hawley, T. S., & Jordan, A. W. (2015). Exploring rationale development as intellectual professional development. *Journal of Thought, 48*(3/4), 2-12.

Hayes, S. & Koro-Ljungberg, M. (2011). Dialogic exchanges and the negotiation of differences: Female graduates students' experiences of obstacles related to academic mentoring. *The Qualitative Report, 16*(3), 682-710.

Higher Education Funding Council England. (2005). *Sustainable development in higher education.* Retrieved from on 10/02/2015 http://www.hefce.ac.uk/pubs/hefce/2005/05_28/05_28.

Higgins, M.C. (2001). Reconceptualizing mentoring at work: A developmental network perspective. *Academy of Management Review, 26*(2), 254-288.

Higgins, M.C. (2002). The more the merrier? Multiple developmental relationships and work satisfaction. *Journal of Management Development, 19*(4), 277-296.

Homans, G. (1961). *Social behavior: Its elementary forms.* New York, USA: Harcourt, Brace & World.

Horowitz, J. & Christopher, K.B. (2013). The research mentoring programme: Serving the needs of graduate and undergraduate researchers. *Springer Science and Business Media, 38*, 105-116.

Humburg, M., van der Velden, R. & Verhagen, A. (2013). *The employability of higher education graduates: The employers' perspective.* Maastricht: European Union.

Johns, R. (2010). *Likert items and scales survey questions bank: Methods fact sheet.* University of Strathclyde.

Johnson, W.B. (2007). *On being a mentor: A guide for higher education faculty.* Malwah, NJ: Lawrence Eastbaum Associates.

Johnson, W.B. & Huwe, J.M. (2002). Toward a typology of mentorship dysfunction in graduate school. *Psychotherapy: Theory Research Practice Training, 39*(1), 44-55.

Johnson, W. B., & Ridley, C. R. (2004). *The elements of mentoring*. New York, USA: Palgrave MacMillan.

Karcher, M.J. (2005). Cross-age peer mentoring. In D.L. DuBois and M.J.Karcher (Eds.), *Handbook of Youth Mentoring*, pp. 266–285. Thousand Oaks, CA: Sage.

Kelcher-Oliver, K. Smith, C.O. Johnson, K., Welkona, J.S., Gardiner, N.D. & Collins, M.H. (2013). Exploring the mentoring relationship among African-American women in psychology. *Advancing Women in Leadership, 33*(4), 29-37.

Kenyatta University. (2012). *A handbook for postgraduate students* (2nd ed.). Nairobi, Kenya: Graduate School, KU.

Kim, C. Y., Goto, S. G., Bai, M. M., Kim, T. E., & Wong, E. (2001). Culturally congruent mentoring: Predicting Asian American student participation using the theory of reasoned action. *Journal of Applied Social Psychology, 31*, 2417–2437.

Kimberlin, C. L. & Winterstein, A.G. (2008). Research fundamentals: validity and reliability of measurement instruments used in research. *American Journal of Health, 65* (1), 2276-2284.

Kram, K. E. (1985). *Mentoring at work*. Glenview, IL: Scott, Foresman and Company.

Kram, K. E., & Madeline C. Bragar, M.C. (1991). Development through mentoring: A strategic approach. In *Career Development: Theory and Practice*. D. Montross & C. Shinkman, (Eds). Springfield, IL: Charles C. Thomas, pp. 221-254.

Lam, A., & Lambermont-Ford, J. P. (2010). Knowledge sharing in organizational contexts: A motivation-based perspective. *Journal of Knowledge Management, 14*(1), 51.

Law, K. S. (2009). Unpacking employee responses to organizational exchange mechanisms: The role of social and economic exchange perceptions. *Journal of Management, 35*(1), 56-93.

Lefter, V. Bratianu, C. Agapie, A. Agoston, S & Orzea, I. (2011). International knowledge transfer in the academic environment of knowledge based economy. *Amfiteatru Economic, 13*(30), 392-403.

Levinson, D. (1978). *The seasons of a man's life*. New York, USA: Alfred Knopf.

Levy, M., Hadar, I., Greenspan, S., & Hadar, E. (2010). Uncovering cultural perspective and barriers during knowledge audit. *Journal of Knowledge Management, 14*(1), 114-127.

Lewis, B. (2002). Widening participation in higher education: The HEFCE perspective on policy and progress. *Higher Education Quarterly, 56 (2),* 204-219.

Majiros, C. (2013). Beyond social exchange theory: A theoretical shift for mentoring relationships in the federal workforce. *Advances in Social Sciences, 14*(2), 531-543.

Makokha, E.P., Mwalili, S., Basiye, F.L., Zeh, C., Emonyi, W.I., Langat, R., Luman, E.I. & Mwangi, J. (2014). Using standard and institutional mentorship models to implement SLMTA in Kenya. *African Journal Lab Med, 3*(2), 1-8.

Malhotra, N. K. (2004). *Marketing research: An applied orientation.* (4th ed.). New Jersey, USA: Pearson Education, Inc.

Manning, M. & McMurray, D. (2009). *Quantitative research methods: Study guide.* (2nd ed.). Southern Cross: Southern Cross University Press.

Marah, J. K., (2006). The virtues and challenges in traditional African education. *The Journal of Pan African Studies, 1*(3), 15-24.

Marsick, V. J. & Watkins, K. E. (2001). Informal and incidental learning. *New Directions for Adult and Continuing Education,* 89, 25-34.

Martinez-Brawley, E., & Zorita, P. (2007). Tacit and codified knowledge in social work: A critique of standardization in education and practice. *Families in Society, 88*(4), 534-542.

Merriam, S. B., Caffarella, R. S., & Baumgartner, L. M. (2007). *Learning in adulthood: A comprehensive guide*. San Francisco, USA: Jossey-Bass.

McMillan, J.H. (2008). *Educational research: Fundamentals for the consumer.* (5th ed.). Boston, USA: Pearson Education, Inc.

McMillan, J.H. & Schumacher, S. (2001). *Research in education: A controversial introduction.* (5th ed.). London: Longman.

McNichols, D. (2010). Optimal knowledge transfer methods: A generation X perspective. *Journal of Knowledge Management, 14*(1), 24-37.

Mills, C. W. (1959). *The sociological imagination.* New York, USA: Oxford University Press.

Ministry of Higher and Tertiary Education, (2010).*Baseline study on the status of human capital development and training institutions in Zimbabwe.* Machawira, M.S. (ed.)

Minnix, R.W. (2013). *Faith development in higher education: The role of the mentor.* Educational doctoral paper. Accessed on 12/01/2015 from: http://fisherpub.sjfc.edu/education_etd/177

Mohan, V.V. (2010). Mentoring doctoral students in a developing society. *Issues in Informing Science and Information Technology, 7*, 249-264.

Monk, P. E., Irons, E., Carlson, N., & Walker, C. (2010). Mentoring: A safety-net for retention and tenure for faculty in institutions of higher education. *National Social Science Journal, 33*(2), 126-132.

Mudhovozi, P. Manganye, L. & Mashamba, T. (2013). Mentors' views of supervising postgraduate students undertaking research at an institution in Zimbabwe. *Journal of Social Sciences, 37*(3), 293-300.

Mullen, C.A. (2006). Deconstructing mentoring in academe: An essay review. *Educational Review, 9*(5), 1-13.

Munro, C.R. (2009). Mentoring needs and expectations of generation –Y human resources: Preparing the next wave of strategic business partners. *Journal of Management Research, 1*(2), 1-25.

Muola, J.M., Maithya, A.M. & Mwinzi, A.M. (2011). The effect of academic advising one academic performance of university students in Kenyan universities. *International Multidisciplinary Journal, Ethiopia, 5*(5), 332-345.

Muola, J.M. & Mwania, J.M. (2013). Emerging need for academic advising in schools, colleges and universities in Kenya. *International Journal of Asian Social Science, 3*(7), 1535-1545.

Murray, M,, & Owen, M.A. (1991). *Beyond the myths and magic of mentoring: How to facilitate an effective mentoring program*. San Francisco, USA: Jossey-Bass Inc.

Mutisya, K. (2010, December 22). How the wrong policies turned public universities into cacophonous markets. *Daily Nation*, p.13.

Nakanjako, D., Katamba, A., Kaye, D.K., Okello, E., Kanya, M.R., Sewankambo, N. & Mayanja-Kizza, H. (2014). *Doctoral training in Uganda: Evaluation of mentoring best practices at Makerere University College of Health Sciences*. BMC Medical Education, 14(9). Accessed form http://www.biomedcentral.com/1472-6920/14/9. doi 10.1186/1472-6920-14-9

National Economic and Social Council of Kenya. (2007). *The Kenya Vision 2030.* Nairobi, Kenya: Government Printer.

Ndebele, C., van Heerden, J. & Chabaya, O. (2013). Development and implementation of a mentoring programme at a historically disadvantaged South African University. *Journal of Social Sciences, 34*(2), 123-133.

Nesoba, D. (2010). *Youth unemployment crisis continues, millions of college grads flood unemployment lines.* Retrieved June 13/12/2014, from http://www.globalpressinstitute.org/print/430.

Nicolae, M. & Vitelar, A. (2013). Knowledge transfer in Romanian higher education. *Management Dynamics in the Knowledge Economy, 1*(1), 87-99.

Nsamenang, A.B. & Tchombe, T.M.S. (2011). *Handbook of African Educational Theories and Practices: A Generative Teacher Education Curriculum.* Retrieved on 10/01/2015 from http://www.thehdrc.org/Handbook%20of%20African%20Educational%20Theories%20and%20Practices.pdf

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory.* (3rd ed.). New York, USA: Mcgraw-Hill:

Nyerere, J. (2013). Higher education research and technology transfer: A look at the policy strides made in East Afrcia. *SA_Educational Journal, 10*(1), 1-28.

Ociti, J.P. (1973). *African indigenous education.* Nairobi, Kenya: East African Literature Bureau.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Validity and qualitative research: An oxymoron? *Quality and Quantity*, 41, 233–249. doi: 10.1007/s11135-006-9000-3

Ooro, S. (2009). *The quest for inclusive education in Africa: A vivisection of concerns, policies and reform initiative*. Kassel: OCIDES.

Parsonson, B. S. (2011). *Quality assurance provision in academic departments*. Hamilton: University of Waikato.

Payne, S.C. & Huffman, A.H. (2005). A longitudinal examination of the influence of mentoring on organizational commitment and turnover. *Academy of Management Journal, 48*(1), 158-168.

Pearce, K. (2012). Building community, educational attainment and university aspirations through university-school mentoring partnerships. In N. Brown, S.M. Jones. and A. Adam (Eds.) *Research and Development in Higher Education: Connections in Higher Education*, 35 (pp 232 – 241). Hobart, Australia, 2 – 5 July 2012.

Pitney, W. A., & Parker, J. (2009). *Qualitative research in physical activity and the health professions.* Auckland, New Zealand: Human Kinetics.

Powell, M. A., Fitzgerald, R.M., Taylor, N. & Graham, A. (2012). *International literature review: Ethical issues in undertaking research with children and young people,* for the Childwatch International Research Network, Southern Cross University, Centre for Children and Young People, Lismore NSW and University of Otago, Centre for Research on Children and Families, Dunedin, NZ.

Quinn, F., Muldoon, R., & Hollingworth, A. (2002). Formal academic mentoring: A pilot scheme for first year science students at a regional university. *Mentoring and Tutoring, 10*(1), 21-33.

Rackham Graduate School. (2014). *How to get the mentor you want: A guide for graduate students.* Michigan: The Regents of University of Michigan.

Radhaklishna, R.B. (2007). Tips for developing and testing questionnaires/instruments. *Journal of Extension,* Retrieved on 20/04/2015 from: www.joe.org.

Ragins, B.R., & Kram, K.E. (Eds.). (2007). *The handbook of mentoring at work: Theory, research, and practice*. Thousand Oaks, CA: Sage.

Republic of Kenya. (2010). *Taskforce on the re-alignment of the education sector to the constitution of Kenya: Towards a globally competitive quality education for sustainable development*. Report of the Taskforce (2012) February.

Republic of Kenya. (2011). *Economic survey.* Nairobi, Kenya: Government Printer.

Republic of Kenya. (2012a). *Ministry of Higher Education Science and Technology: Policy framework for university education*. Nairobi, Kenya: Government Printer.

Republic of Kenya. (2012b). *Sessional paper no. 14 of 2012. A policy framework for education and training: Reforming education and training in Kenya*. Nairobi, Kenya: Government Printer.

Rodgers, S.T. & Cudjce, T. (2013). Images of Black leadership and mentoring in higher education: Personal narratives from faculty and staff. *Journal of Research Initiatives, 1*(1), 1-12.

Rosenbach, William E. (1993). Mentoring: Empowering followers to be leaders. In *Contemporary Issues in Leadership*. W. E. Rosenbach and R. L. Taylor, Eds. Boulder, CO: Westview Press, pp.141-151.

Russell, J. E. (1991). Career development interventions in organizations. *Journal of Vocational Behavior,* 38(3),237-287.

Sabatelli, R.M. (2003) Social Exchange Theory. *International Encyclopedia of Marriage and Family.* Retrieved 30/01/2015 from http://www.encyclopedia.com/doc/1G2-3406900408.html

Saleemi, N.A. (2011). *Quantitative techniques: Simplified.* Nairob, Kenya: Saleemi Publications Ltd.

Scandura, T. A. & Pellegrini, E. K. (2004). Competences of building the developmental relationship. In D. Clutterback, & G. Lane (Eds.), *The situational mentor: An international review of competences and capabilities in mentoring*. Hants: Gower Publishing Limited.

Schlosser, L.Z., Knox, S., Moskovitz, A.R., & Hill, C.E. (2003). A qualitative examination of graduate advising relationships: The advisee perspective. *Journal of Counseling Psychology, 50*, 178–188.

Seale, C. (2011). *Researching society and culture.* (3rd ed.). London, England: Sage Publications Ltd.

Seekoe, E. (2013). A conceptual framework for a mentoring model for nurse educators. *African Journal for Physical, Health Education, Recreation and Dance*, *19*(1), 142-151.

Sell, J. (2008). Social exchange theory. *International Encyclopedia of the Social Sciences.* Retrieved January 30, 2015 from Encyclopedia.com: http://www.encyclopedia.com/doc/1G2-3045302490.html

Shore, L., Coyle-Shapiro, J., Chen, X., & Tetrick, L. (2009). Social exchange in work settings: Content, process, and mixed models. *Management and Organization Review, 5*(3), 289-302.

Shore, W.J., Toyokawa, T., & Anderson, D.D. (2008). Context-specific effects on reciprocity in mentoring relationships: Ethical implications. *Mentoring & Tutoring: Partnership in Learning, 16, 17-19.*

Simon, M. (2011). Dissertation and scholarly research: Recipes for success. Seattle, WA: Dissertation Success, LLC.

Smith, E. W. (1940). The function of folk-tales. *Journal of the African Royal Society, 39*(3), 64-83.

Smith, M. (2002). *Malcolm Knowles, informal adult education, self-direction and andragogy.* Retrieved on 8/8/2015 from: http://www.infed.org/thinkers/et-knowl.htm

Solte, J.F., Fine, G.A. & Cook, K.S. (2001). Sociological miniaturism: Seeing the big through the small in social psychology. *Annual Review of Sociology, 27*(1), 387-413.

Some, D. (2015, May 7). Postgraduate students not well trained. *The Daily Nation,* p. 16.

Song, J., Tsui, A. S., & Law, K. S. (2009). Unpacking employee responses to organizational exchange mechanisms: The role of social and economic exchange perceptions. *Journal of Management, 35*(1), 56-93.

Sriwichai, P., Meksamoot, K., Chakpitak, N., Dahal, K. & Jongjalean, A. (2014). The effectiveness of knowledge management systems in research mentoring using knowledge engineering. *International Education Studies, 7*(5), 25-38.

Stodgill, R. (1960). In Chapman, M. (1998). Into the breach. *People Management.* 10 December 1998. Accessed on 16/01/2015 from http://www.cipd.co.uk

Sum, A., Khatiwada, I., McLaughlin, J., Palma, S., Motroni, J. Sullivan, N., & Torres, N. (2010). *The College Success of Boston Public School Graduates from the Classes Of 2000–2008: Findings From A Post-Secondary Longitudinal Tracking Study and the Early Outcomes of the Success Boston College Completion Initiative.* Boston, MA: Center for Labour Market Studies, Northeastern University.

Takwe, Y.F. & Sagsan, M. (2011). Tacit knowledge transfer within the informal environment of higher education. *International Congress of Educational Research, 4-7 May 2011.* Northern Cyprus/TRNC.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling. *Journal of Mixed Methods Research, 1*(1), 77-100. doi: 10.1177/2345678906292430

Thomas, K.M. Willis, L.A. & Davis, J. (2007). Mentoring minority graduate students: Issues and strategies for institutions, faculty and students. *Equal Opportunities International, 26*(3), 178-192.

Thorndike, E.L. (1935). *The psychology of wants, interests, and attitudes.* New York, USA: Appleton-Century.

Tole, V.S. (2005). *Odyssey and Sirens: A temptation towards the mystery of the isopolyphonic regions of Epirus, a Homeric theme with variations.* Tirana, Albania. ISBN 99943-32-63-9.

University of Nairobi. (2013). *Student information handbook 2013/2014.* Nairobi, Kenya: Author.

University of Nairobi. (2015a). *The 54th Congregation for the Conferment of Degrees and Award of Diplomas.* Nairobi, Kenya: Author.

University of Nairobi. (2015b). The University of Nairobi Profile. Accessed on 23/03/2015 from: www.uonbi.ac.ke.

Wamugunda, A. (2015). Location of Kenyatta University main campus. Accessed on 4/6/2015 from http://www.zakenya.com/education/location_of_kenyatta_university_main_campus_in nairobi_kenya.html

Wao, H. O. (2010). Time to the doctorate: Multilevel discrete-time hazard analysis. *Educational Assessment Evaluation and Accountability, 22*, 227-247.

Watson, S. (2006). Virtual mentoring in higher education: Teacher education and cyber-connections. *International Journal of Teaching and Learning in Higher Education, 18*(3), 168-179.

Watt, T, R., Groenvold, A.K. M., Bjorner, J. B., Watt, S. H., Bonnema, S. J., Hegedus, L. & Feldt-Rasmussen, U. (2008). Improving a newly developed patient-reported outcome for thyroid patients, using cognitive interviewing. *Quality of Life Research*, (17). 1009-1017.

Wesangula, D. (2014). Only half of university graduates in Kenya are ready for job market. *The Standard Digital* June 8th 2014. Accessed on 12/02/2015 from http://www.standardmedia.co.ke/lifestyle/article/2000

Wheeler, M., Keller, T., & DuBois, D. (2010). Review of three recent randomized trials of school based mentoring. *Social Policy Report, 24*(3). Retrieved from www.sred.org

Wikhamn, W. & Hall, A.T. (2012). Social exchange in a Swedish work environment. *International Journal of Business and Social Science, 3*(23), 65-64.

Wonka, M. (2012). The role of mentoring in organizational learning: A case study on the university. *Management, Knowledge Learning International, 2*(1), 34-40.

Wright, M.C. & Schram, L.N. (2010). Mentoring graduate student mentoring. *The Professional and Organizational Development Network in Higher Education, 22*(7), 1-6.

Yeaton, K. (2007). Recruiting and managing the "why" generation: Gen Y. *The CPA Journal, 78*(4), 68-72.

Yin-Nii, L. & Hse, A.Y. (2013). The perspectives of science and engineering masters students in the mentoring relationship. *International Journal of Evidence-based Coaching and Mentoring, 11*(1), 129-145.

Yob, I. & Crawford, L. (2012). Conceptual framework for mentoring doctoral students. *Higher Learning Research Communications, 2*(2), 34-47.

Zey, M. G. (1991). *The mentor connection: Strategic alliances in corporate life*. New Brunswick, NJ: Transaction Publishers.

Zoharabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies, 3*(2), 254-262.

APPENDICES

APPENDIX I : QUESTIONNAIRE FOR DOCTORAL STUDENTS

Purpose of the Study

I am Elizabeth Obura, a student at the Catholic University of Eastern Africa (CUEA), Langata campus. In partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Education, I am carrying out a study titled: *Mentoring Doctoral Students for Knowledge Transfer in Higher Education: A Comparative Study of a Private and a Public University in Kenya.* I hereby request you to complete this questionnaire to assist me get information for this study. All information obtained will be used strictly for purposes of the aforementioned study and your identity will remain anonymous.

Thank you.

Note:

Mentoring as used in this study is the process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, mentoring encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision from the time a doctoral student is admitted until successful completion of the doctoral programme.

Instructions

Please, place a tick (√) in the provided bracket and give explanation in the space provided.
Kindly, do not write or indicate your name anywhere on this questionnaire.

Section A: Demographic Information of Doctoral Students

1. Gender Male ( ) Female ( )
2. Type of university Public ( ) Private ( )
3. Faculty _____
4. Area of specialization (Department) _____
5. Year of study 1st ( ) 2nd ( ) 3rd ( ) 4th ( ) 5th ( ) More than 5 ( )
6. Age: Below 30 years ( ) 31-40 years ( ) 41-50 years ( ) 51-60 years ( ) Over 60 years ( )

Section B: Ways of Mentoring Doctoral Students

7. Does your university have any specific programmes for mentoring doctoral students?
   Yes ( ) No ( ) No idea ( )
8. How many supervisors are you entitled to during your dissertation development?
   One ( ) Two ( ) Three ( ) More than three ( ) No idea ( )

9. Who is in charge of supervisor allocation to doctoral students in your department?
   a) Head of Departments ( )
   b) Dean of faculty ( )
   c) Any other (specify) _____

10. Indicate, in the list below, how often you have been mentored by your lecturer(s) in the specified areas

Area	Once	Twice	Three times	Four times	Five and more	Never
Goal setting						
i) Academic targets						
ii) Career aspirations						
iii) Personal aspirations						
Social interaction						
i) Networking with lecturers						
ii) Personal sharing						
iii) Consultation						
Teamwork						
i) Co-teaching undergraduate/masters						
ii) Co-authorship of articles						
iii) Co-presentation in conferences						
Reciprocation						
i) Improved computer skills						
ii) Improved writing skills						
iii) Increased knowledge						
Conferencing						
i) Seminar attendance						
ii) Workshop attendance						
iii) Conference attendance						
Presentations						
i) Class Presentation						
ii) Conference presentation						
iii) Workshop presentation						
Supervision						
i) Research writing						
ii) Dissertation development						
iii) Undergraduate academic guidance						
Any other(s), specify						
i)						
ii)						
iii)						

11. List any of the areas mentioned in the table above in which you have engaged in without the assistance of any of your lecturer(s)

_____

_____

_____

_____

Section C: Factors affecting Mentoring doctoral students for Knowledge Transfer

Indicate, in the list below, whether you have undertaken the specified activities as a student since you joined the PhD programme:

Area			**If yes, how many?**	**If no, why?**
	Yes	**No**		
Goal setting				
i) Have you set any academic goals since you joined the PhD programme?				
ii) Have you met any of your career aspirations since you joined the PhD programme?				
Social Interaction				
i) Have you ever consulted your lecturers this semester?				
Teamwork				
i) Have you ever been allocated a unit to teach in your university as a PhD student?				
ii) Have you published any article as a PhD student?				
iii) Have you presented any papers at conference(s)				
Reciprocation				
i) Have you acquired any new computer skills since you joined PhD?				
Conferencing				
i) Have you attended any seminar since you joined the PhD programme?				
ii) Have you attended any workshops since you joined the PhD programme?				
iii) Have you attended any conference(s) since you joined the PhD programme?				
Presentations				
i) Have you made any class presentations?				
ii) Have you made any conference presentations?				
iii) Have you made any workshop presentations?				
Supervision				
i) Have you been allocated any undergraduate project to supervise?				
Any other (specify)				
i)				

Section D: Perceptions of Doctoral Students towards Mentoring for Knowledge Transfer in Higher Education

12. Using the likert scale provided, rate the following statements to indicate your perception on issues related to mentoring doctoral students for knowledge transfer in higher education

Strongly Agree = 5; Agree = 4; Undecided = 3; Disagree = 2 and Strongly Disagree =1; such that 5 is the highest score and 1 is the lowest score.

	Statement	SA	A	U	D	SD
A	My lecturers encourage me to reflect on my future professional practice					
B	Mentoring doctoral students is a waste of time					
C	Through teamwork, I have been able to co-present conference papers with some of my lecturers					
D	Mentoring is an effective way of ensuring that doctoral students complete their studies in time					
E	Mentoring doctoral students should be allocated more time					
F	Lecturers give adequate time for consultation with doctoral students					
G	Mentoring doctoral students should start at admission					
H	The gender of the supervisor does not play a role in how doctoral students are supervised					
I	Lecturers have huge work load which hinders quality supervision of dissertation					
J	My university's dissertation supervision policy is available to every doctoral student					
K	Supervisors assigned to doctoral students have the essential dissertation supervision skills					
L	Doctoral students in my faculty complete their dissertations within stipulated time					
M	Doctoral students must have at least two publications before graduating					
N	Doctoral dissertations should be published by the university					
O	Lecturers follow all the stipulated rules in the supervision guideline					
P	Supervisors consult each other over the research progress of their students					
Q	Doctoral students participate in the selection of their dissertation supervisors					
R	Senior lecturers give better guidance during consultation than novice lecturers					
S	Doctoral students who delay to complete their studies are penalized by the university					
T	The number of supervisors assigned to doctoral students are adequate					
U	Lecturers give timely feedback to doctoral students in my university					
V	Co-authorship with my lecturers is encouraged in my university					
W	Mentoring doctoral students depends on the cooperation of the individual student					
X	Academic seminars and workshops should be made compulsory for all doctoral students					
Y	I am not satisfied with the assistance given to me as a doctoral student by my lecturers					
Z	Mentoring doctoral students should be infused into their lectures					

Section E: Challenges Facing Mentoring Doctoral Students for Knowledge Transfer in Higher Education and Ways of curbing them

13. What are some of the challenges that you face as a doctoral student in your department?

_____

_____

_____

_____

14. Suggest ways of addressing the challenges mentioned in Question 17:

_____

_____

_____

_____

Thank you for your time

APPENDIX II: QUESTIONNAIRE FOR SUPERVISORS

Purpose of the Study

I am Elizabeth Obura, a student at the Catholic University of Eastern Africa (CUEA), Langata campus. In partial fulfillment of the requirement for the award of the Degree of Doctor of Philosophy in Education, I am carrying out a study titled: *Mentoring Doctoral Students for Knowledge Transfer in Higher Education: A Comparison of a Private and a Public University in Kenya*. I hereby request you to complete this questionnaire to assist me get information for this study. All information obtained will be used strictly for purposes of the aforementioned study and your identity will remain anonymous.
Thank you.

Note:
Mentoring as used in this study is the process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, mentoring encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision from the time a doctoral student is admitted until successful completion of the doctoral programme.

Instructions
Please, place a tick in the provided bracket and give explanation in the space provided.
Kindly, do not write or indicate your name anywhere on this questionnaire.

Section A: Demographic Information of the Lecturers

1. Gender Male ( ) Female ( )
2. Type of university Public ( ) Private ( )
3. Faculty _____
4. For how long have you been mentoring doctoral students? _____
5. Highest academic qualification _____
6. Designation(s)
   Lecturer ( ) Senior lecturer ( ) Head of Department ( ) Supervisor ( )

Section B: Ways of Mentoring Doctoral Students for Knowledge Transfer in Higher Education

7. How many doctoral students are you supervising currently? _____

8. How long do the supervision relationships between you and doctoral student last on average?

a) One year ( )
b) Two years ( )
c) Three years ( )
d) Four years ( )
e) Five years ( )
f) Over five years ( )

9. How many doctoral students do you currently supervise from other departments/faculties other than your own?

None ( ) One ( ) Two ( ) Three ( ) More than three ( )

10. How many doctoral students have you assisted to graduate to date? _____

11. How many doctoral students have you assisted to publish their final dissertation to date?
None ( ) One ( ) Two ( ) Three ( ) More than three ( )

12. Indicate, in the list below, how often you mentor your doctoral supervisee(s) in the specified areas:

Area	Once	Twice	Three times	Four times	Five and more	Never
Goal setting						
i) Academic targets						
ii) Career aspirations						
iii) Personal aspirations						
Social interaction						
i) Networking with lecturers						
ii) Personal sharing						
iii) Consultation						
Teamwork						
i) Co-teaching undergraduate/master						
ii) Co-authorship of articles						
iii) Co-presentation in conferences						
Reciprocation						
i) Improved computer skills						
ii) Improved writing skills						
iii) Increased knowledge						
Conferencing						
i) Seminars attendance						
ii) Workshops attendance						

iii) Conferences attendance						
Presentations						
i) Class Presentation						
ii) Conference presentation						
iii) Workshop presentation						
Supervision						
i) Research writing						
ii) Dissertation development						
iii) Undergraduate academic guidance						
Any other(s) (specify)						
i)						
ii)						
iii)						

Section C: Factors affecting Mentoring Doctoral Students for Knowledge Transfer

13. Indicate, in the list below, whether you have assigned any of your doctoral students the specified activities in any of their academic years

Activities			**If yes, indicate the student(s)' year(s) of study**				
	Yes	**No**	**1st**	**2nd**	**3rd**	**4th**	**5th and more**
Goal setting							
i) Are there any PhD students who have shared their academic goals with you?							
ii) Have any of your PhD students informed you of their personal aspirations?							
Social Interaction							
i) has any PhD student consulted you this semester?							
Teamwork							
i) Have you ever assigned a PhD student a topic to co-teach with you in any unit?							
ii) Do you know a PhD student who has published any article?							
iii) Have you co-presented papers at conference(s) with any of your PhD student(s)?							
Reciprocation							
i) Have you noted new computer skills in your PhD students since they joined the programme?							
Conferencing							
i) Do your PhD students engage in academic seminars during your lecture session(s)?							
ii) Do your PhD students attend academic workshops?							
iii) Have any of your PhD students attended any international conference(s) outside your university?							
Presentations							
i) Have you assigned any PhD student class presentations?							

ii) Have you seen any PhD student make conference presentations?							
iii) Have you witnessed any PhD student make workshop presentations?							
Supervision							
i) Have you referred any undergraduate/masters students to your PhD student(s) for academic guidance?							

Section D: Forms of Mentoring Doctoral Students for Knowledge Transfer

14. a) How many of your doctoral student supervisees have discontinued in the previous academic year? _____

14. b) What reasons do you attribute to the dropout cases among your doctoral student supervisees?

_____
_____
_____
_____

15. a) What type of mentoring do you give doctoral students?
Formal - a requirement by the university ( )
Informal - Voluntary ( )
Both – formal and informal ( )

15. b) Please, explain your response in Question 15. a):

_____
_____
_____

16. In what ways do you mentor doctoral students?

_____
_____
_____
_____

17. In your view, what are the benefits that result from mentoring doctoral students?

_____
_____
_____
_____

18. What are some of the challenges faced by your doctoral student supervisees as they develop their research skills?

_____
_____
_____

19. What are strategies through which research skills of doctoral students can be enhanced?

_____
_____
_____
_____

20. On average, how many, of your doctoral student supervisees graduate annually?

_____

21. a) Do any of your doctoral student supervisees extend their studies beyond the stipulated completion period for their programme?
Yes ( ) No ( )

21. b) Please, explain your response in Question 21. a):

_____
_____
_____
_____

Section E: Challenges Facing Mentoring Doctoral Students for Knowledge Transfer in Higher Education and Ways of addressing them

22. What are some of the challenges you face in mentoring doctoral students?

_____
_____
_____
_____

23. What are some of your suggestions for addressing the challenges you mentioned in Question 22:

_____
_____
_____
_____

Thank you for your time

APPENDIX III: QUESTIONNAIRE FOR HEADS OF DEPARTMENTS

Purpose of the Study

I am Elizabeth Obura, a student at the Catholic University of Eastern Africa (CUEA), Langata campus. In partial fulfillment of the requirements for the ward of the Degree of Doctor of Philosophy in Education, I am carrying out a study titled: *Mentoring Doctoral Students for Knowledge Transfer in Higher Education: A Comparison of a Private and a Public University in Kenya.* I hereby humbly request you to complete this questionnaire to assist me get information for this study. All information obtained will be used strictly for purposes of the said study and your identity will remain anonymous.
Thank you.

Note:

Mentoring as used in this study is the process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, mentoring encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision from the time a doctoral student is admitted until successful completion of the doctoral programme.

Instructions
Please, place a tick in the provided bracket and give explanation in the space provided.
Kindly, do not write or indicate your name anywhere on this questionnaire.

Section A: Demographic Information of the Head of Department

1. Gender Male ( ) Female ( )
2. Type of university Public ( ) Private ( )
3. Faculty _____
4. For how long have you been a head of department? _____
5. How many doctoral students are currently enrolled in your department? _____
6. How many lecturers in your department mentor doctoral students? _____

Section B: Ways of Mentoring Doctoral Students for Knowledge Transfer

7. Which of the following describes the nature of the doctoral programme offered by your department?
   Dissertation only ( )
   Coursework and Dissertation ( )
   Any other (specify) _____

8. Who is in charge of allocating supervisors to doctoral students in your department?
   Head of Department ( )
   Dean of faculty ( )
   Any other (specify) _____

9. On average, how long does it take doctoral students in your department to complete the dissertation writing?
   One year ( )
   Two years ( )
   Three years ( )
   Four years ( )
   Five years ( )
   Any other (specify) _____

10. How frequently do lecturers in your department give feedback on the progress of their doctoral student supervisees?
    Weekly ( )
    Monthly ( )
    Bi-monthly ( )
    Rarely ( )

11. In your view, what are some of the ways of promoting scholarship among doctoral students in your department?
    _____
    _____
    _____
    _____

12. Indicate, in the list below, how often doctoral students in your department are mentored by the lecturers:

Area	Once	Twice	Three times	Four times	Five and more	Never
Goal setting						
i) Academic targets						
ii) Career aspirations						
iii) Personal aspirations						
Social interaction						
i) Networking with lecturers						
ii) Personal sharing						
iii) Consultation						
Teamwork						
i) Co-teaching undergraduate/masters						
ii) Co-authorship of articles						
iii) Co-presentation in conference(s)						
Reciprocation						
i) Improved computer skills						
ii) Improved writing skills						
iii) Increased knowledge						
Conferencing						
i) Seminar attendance						
ii) Workshop attendance						
iii) Conference attendance						

Presentations						
i) Class Presentation						
ii) Conference presentation						
iii) Workshop presentation						
Supervision						
i) Research writing						
ii) Dissertation development						
iii) Undergraduate academic guidance						
Any other(s) (specify)						
i)						
ii)						
iii)						

Section C: Factors affecting Mentoring Doctoral Students for Knowledge Transfer

13. Indicate, in the list below, whether doctoral students in your department undertake the specified activities and their years of study

Area			**If yes, indicate student(s)' year of study**				
	Yes	**No**	**1st**	**2nd**	**3rd**	**4th**	**5th and above**
Goal setting							
Are there any PhD students who have shared their academic goals with your department?							
Have any of your PhD students informed your department about their personal aspirations?							
Social Interaction							
Do lecturers in your department have specific consultation hours for PhD?							
Have you received any complaints from PhD students about consultation hours availed by your lecturers?							
Have any of your lecturers reported lack of consultation among PhD students in your department?							
Teamwork							
Did your department assign any PhD students units to teach during the previous academic year?							
Did any PhD students in your department publish any article during the previous academic year?							
Did any PhD students co-present papers at conference(s) with lecturers in your department?							
Reciprocation							
Do you notice acquisition of any new computer skills among PhD students in your department?							
Conferencing							
Do your PhD students engage in academic seminars at departmental level?							
Do your PhD students attend academic workshops?							

Do PhD students in your department attend any international conference(s) outside your university?							
Presentations							
Does your department assign PhD student class presentations?							
Did any PhD students in your department made conference presentations during the previous academic year?							
Do PhD students in your department make workshop presentations?							
Supervision							
Do PhD students offer academic guidance to undergraduate/masters students in your department?							

14. How long does it take a student to pursue the doctoral programme in your department?

    _____

15. On average, how many doctoral students complete their studies in your department within stipulated time? _____

16. What factors promote doctoral students' timely completion of their studies?

    _____
    _____
    _____

17. What factors hinder doctoral students' from timely completion of their studies?

    _____
    _____
    _____
    _____

18. a) How effective do you find the arrangement of co-supervising one doctoral student in collaboration with another lecturer?
    i. Very effective ( )
    ii. Effective ( )
    iii. Least effective ( )

18. b) Please explain your response in Question 18 a):

    _____
    _____
    _____
    _____

19. What are the benefits that result from mentoring of doctoral students in your department?

    _____
    _____
    _____
    _____

Section D: Challenges Facing Mentoring Doctoral Students for Knowledge Transfer in Higher Education and Ways of curbing them

20. What are some of the challenges that you face as a department in mentoring doctoral students?

_____
_____
_____
_____

21. Suggest ways of addressing the challenges mentioned in Question 20:

_____
_____
_____
_____

Thank you for your time

APPENDIX IV: INTERVIEW GUIDE FOR FACULTY DEANS & DIRECTORS OF BOARDS OF POSTGRADUATE STUDIES

Date _____ Time _____

Note:

Mentoring as used in this study is the process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, mentoring encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision from the time a doctoral student is admitted until successful completion of the doctoral programme.

Section A: Interview Questions

1. What responsibilities do you have as a dean? (Probe on: administrative, teaching and research).
2. Which duties do you focus on most according to the university's regulation?
3. How do you define mentoring?
4. What are some of the ways in which your faculty mentors doctoral students? (Probe on: co-authorships; supervision; publications; seminars; workshops; and recommendation for jobs).
5. From your experience as the Faculty Dean, how is knowledge transfer done in the doctoral programme offered in your faculty? (Probe on admission/enrolment rates; dropout rate, completion rates, retention and overall satisfaction with the programme).
6. How do you perceive mentoring doctoral students as practiced in the faculty of education? (Probe on ways of mentoring, effectiveness)
7. What are some of the challenges facing doctoral students in your faculty? (Probe for explanation on the manifestation of these difficulties in relation to total number of doctoral students in the faculty; total number of full time lecturers who handle doctoral students in the faculty and workload, and possible measures to address them).
8. What challenges are faced by faculty with regards to mentoring doctoral students? (Probe on: university policy, space, part time lecturers, full time lecturers)
9. What suggestions would you make to minimize the challenges faced by doctoral students in your faculty? (Probe further on ways, effectiveness, perception and challenges).

10. What are the areas that pose a challenge to you as a Dean of Faculty in relation to mentoring doctoral students? (Probe on total number of doctoral students in the faculty; total number of full time lecturers who handle doctoral students in the faculty and workload among others).
11. What suggestions would you make to minimize the challenges faced by the Faculty of Education in mentoring doctoral students? (Probe further).

Section B: Personal Information of the Interviewee

12. Gender Male ( ) Female ( )
13. Area of specialization _____
14. Years of experience _____
15. Minimum workload _____
16. Maximum workload _____

Thank you for your time

APPENDIX V: INTERVIEW GUIDE FOR DEPUTY VICE CHANCELLORS, ACADEMIC AFFAIRS

Date _____ Time _____

Note:
Mentoring as used in this study is the process of nurturing the academic and professional life of a doctoral student by giving support and guidance. In this study, mentoring encompasses goal setting, social interaction, teamwork, reciprocation, conferencing, presentations and supervision from the time a doctoral student is admitted until successful completion of the doctoral programme.

Section A: Interview Questions

1. What responsibilities do you have as the DVC, Academic Affairs? (Probe on: administrative, community service, teaching and research).
2. Which duties do you focus on most according to the university's regulation?
3. How do you define mentoring? (Probe on formal and informal mentoring)
4. What is your University policy on mentoring doctoral students?
5. Which national education policy documents inform your policy on mentoring doctoral students? (Probe on MOEST, Universities Act, CUE, NACOSTI)
6. What are some of the ways in which your university mentors doctoral students? (Probe on: goal setting; social interaction; teamwork; reciprocation; conferencing; presentations; supervision).
7. From your experience as the DVC, Academic Affairs, how is knowledge transfer done in the doctoral programme offered in your university? (Probe on admission/enrolment rates; dropout rate, completion rates, retention and overall satisfaction with the programme).
8. How do you perceive mentoring doctoral students as practiced in your university? (Probe on ways of mentoring, effectiveness)
9. What are some of the challenges facing doctoral students in your University? (Probe for explanation on the manifestation of these difficulties in relation to total number of doctoral students in the university; total number of full time lecturers who handle doctoral students in the university and workload, and possible measures to address them).
10. What are the areas that pose a challenge to your university in relation to mentoring doctoral students? (Probe on total number of doctoral students in the faculty; total

number of full time lecturers who handle doctoral students in the faculty and workload among others).

11. What suggestions would you make to minimize the challenges faced by your university in mentoring doctoral students? (Probe further).
12. What plans do you have for moving forward your policy on mentoring doctoral students as a university? (Probe on developing new programmes in the next 5 years, 10 years)

Section B: Personal Information of the Interviewee

13. Gender Male ( ) Female ( )
14. Area of specialization _____
15. Years of experience in current position _____
16. Type of university _____

Thank you for your time

APPENDIX VI: DOCUMENT ANALYSIS GUIDE

Section A General Information

1. What kind of document is it? How do you know?
2. When was it written? Is there a date or any other information that indicates this?
3. Who wrote the document?
4. For whom was the document written? How can you tell?
5. Where was the document written?
6. Why was the document written?
7. What is the main topic in the document?

Section B: How mentoring doctoral students has been addressed in the documents

8. Does the document reveal mentoring policy for the doctoral students?
9. What does the document tell you about mentoring doctoral students for knowledge transfer in the given university at the time it was written?
10. Does the document provide any clue about how doctoral students are mentored for knowledge transfer in their respective universities?
11. Is there any information in the document that you think conflicts with the CUE guidelines?

APPENDIX VII: SURVEY/INTERVIEW VALIDATION RUBRIC FOR EXPERT PANEL

Criteria	Operationalization/Observation	Score		Questions NOT meeting standard (List page and__question number that need to be revised. *Please use the comments and suggestions section to recommend revisions.*
		Yes	No	
Clarity	• The questions are direct and specific. • Only one question is asked at a time. • The participants can understand what is being asked. • There are no *double-barreled* questions (two questions in one).			
Wordiness	• Questions are concise. • There are no unnecessary words			
Negative Wording	• Questions are asked using the affirmative (e.g., Instead of asking, "Which methods are not used?", the researcher asks, "Which methods *are* used?")			
Overlapping Responses	• No response covers more than one choice. • All possibilities are considered. • There are no ambiguous questions.			
Balance	• The questions are unbiased and do not lead the participants to a response. The questions are asked using a neutral tone.			
Use of Jargon	• The terms used are understandable by the target population. • There are no clichés or hyperbole in the wording of the questions.			
Appropriateness of Responses Listed	• The choices listed allow participants to respond appropriately. • The responses apply to all situations or offer a way for those to respond with unique situations.			
Use of Technical Language	• The use of technical language is minimal and appropriate. • All acronyms are defined.			
Application to Praxis	• The questions asked relate to the daily practices or expertise of the potential participants.			
Relationship to Problem	• The questions are sufficient to resolve the problem in the study • The questions are sufficient to answer the research questions. • The questions are sufficient to obtain the purpose of the study.			
Measure of construct A (Ways of Mentoring Doctoral students)	• The instrument adequately measures this construct			
Measure of construct B (Ways of Knowledge Transfer in Higher education)	• The instrument adequately measures this construct			
Measure of construct C (Comparison of Mentoring in Private and Public Universities)	• The instrument adequately measures this construct			
Measure of construct D (Perception towards Mentoring)	• The instrument adequately measures this construct			
Measure of construct E (Challenges facing Mentoring Doctoral Students)	• The instrument adequately measures this construct			
Measure of construct F (Suggestions for Addressing Challenges facing Mentoring)	• The instrument adequately measures this construct			

Source: Researcher (2011)

APPENDIX VIII: TYPES OF VALIDITY

VREP is designed to measure face validity, construct validity, and content validity.

Face validity is concerned with how a measure or procedure appears. Does it seem like a reasonable way to gain the information the researchers are attempting to obtain? Does it seem well designed? Does it seem as though it will work reliably? Face validity is independent of established theories for support (Fink, 1995).

Construct validity seeks agreement between a theoretical concept and a specific measuring device or procedure. This requires operational definitions of all constructs being measured.

Content Validity is based on the extent to which a measurement reflects the specific intended domain of content (Carmines & Zeller, 1991, p.20). Experts in the field can determine if an instrument satisfies this requirement. Content validity requires the researcher to define the domains they are attempting to study. Construct and content validity should be demonstrated from a variety of perspectives.

Criterion related validity, also referred to as instrumental validity, is used to demonstrate the accuracy of a measure or procedure by comparing it with another measure or procedure which has been demonstrated to be valid. If after an extensive search of the literature, such an instrument is *not* found, then the instrument that meets the other measures of validity are used to provide criterion related validity for future instruments.

Operationalization is the process of defining a concept or construct that could have a variety of meanings to make the term measurable and distinguishable from similar concepts. Operationalizing enables the concept or construct to be expressed in terms of empirical observations. Operationalizing includes describing what is, and what is not, part of that concept or construct.

APPENDIX IX: PARTICIPANTS' INFORMED CONSENT FORM A

Study Aim

You have been randomly selected to participate in this comparative study whose aim is to investigate how mentoring doctoral students is done for knowledge transfer in higher education. The study involves use of questionnaire, interview guide and document analysis. Your views will be sought through the questionnaire.

Confidentiality

Your views in the aforementioned data collection instrument(s) will remain confidential and will not be divulged to anyone. All interviews will take place in a private setting. Under no circumstance will reference be made in oral or written reports which could link you to any information collected and your name will not appear anywhere. Only the researcher will have access to the information and all the records of views shared will be stored in a locked place under researcher's control. Audio-taping may be used for certain portions of the interview. However, prior to this, you will be informed appropriately and your approval sought.

Risks and benefits

No risks are anticipated as a result of participating in this exercise. However, you will be asked questions about your background such as gender, area of specialization, type of university, faculty, highest academic qualification and designation(s). Your knowledge on mentoring doctoral students for knowledge transfer in higher education will also be sought. Should you have questions at any time about the procedures being used, you are encouraged to ask the researcher. The information you will provide in this study will be used for the purpose of providing solutions to how mentoring doctoral students can be enhanced to foster knowledge transfer in higher education within your university in particular and Kenyan universities in general.

Participation

Your participation in this study is voluntary and you may refuse to answer any question or participate in any activity. If you feel uncomfortable participating in this exercise, you may withdraw at any time without penalty. If you agree to participate in this study, please sign and tear the consent slip below and return it to the researcher before you start.

CONSENT

I have read and understood the above information and all questions pertaining to this study have been answered to my satisfaction. I also understand that by signing and returning this consent form I have agreed to participate in this study voluntarily.

Name of participant _____

Signature _____

Date _____

APPENDIX X: PARTICIPANTS' INFORMED CONSENT FORM B

Study objectives

You have been purposely selected to participate in this comparative study whose aim is to investigate how mentoring doctoral students is done for knowledge transfer in higher education. The study involves use of questionnaire, interview guide and document analysis. Your views will be sought through the interview guide.

Confidentiality

Your views in the aforementioned data collection instrument(s) will remain confidential and will not be divulged to anyone. All interviews will take place in a private setting. Under no circumstance will reference be made in oral or written reports which could link you to any information collected and your name will not appear anywhere. Only the researcher will have access to the information and all the records of views shared will be stored in a locked place under researcher's control. Audio-taping may be used for certain portions of the interview. However, prior to this, you will be informed appropriately and your approval sought.

Risks and benefits

No risks are anticipated as a result of participating in this exercise. However, you will be asked questions about your background such as gender, area of specialization, type of university, faculty, highest academic qualification and designation(s). Your knowledge on mentoring doctoral students for knowledge transfer in higher education will also be sought. Should you have questions at any time about the procedures being used, you are encouraged to ask the researcher. The information you will provide in this study will be used for the purpose of providing solutions to how mentoring doctoral students can be enhanced to foster knowledge

transfer in higher education within your university in particular and Kenyan universities in general.

Participation

Your participation in this study is voluntary and you may refuse to answer any question or participate in any activity. If you feel uncomfortable participating in this exercise, you may withdraw at any time without penalty. If you agree to participate in this study, please sign and tear the consent slip below and return it to the researcher before you start.

CONSENT

I have read and understood the above information and all questions pertaining to this study have been answered to my satisfaction. I also understand that by signing and returning this consent form I have agreed to participate in this study voluntarily.

Name of participant _____

Signature _____

Date _____

APPENDIX XI: INTRODUCTORY LETTER FROM CUEA

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Faculty of Education

Department of Educational Administration and Planning

Date: 20th July 2015

To Whom It May Concern

Ref: Elizabeth Obura : PhD ED/1023478

I am writing to introduce to you **Elizabeth Obura** who is a final year PhD student at the Catholic University of Eastern Africa, Nairobi - Kenya; and to request you to assist her to accomplish her academic research requirements.

Obura's PhD Degree specialization is Educational Administration and Planning. She has completed all course work requirements for this programme. However, every student in the programme is required to conduct research and write a report/thesis submitted during the final years of studies.

Accordingly, Obura's proposal for research has been approved. She will conduct research on the following topic:

> ***"Mentoring doctoral students for knowledge transfer in higher education: a comparative study of a Private and Public University Kenya."***

Thanking you in advance for any assistance you will offer to Obura.

Sincerely,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
DEPARTMENT OF EDUCATIONAL ADMINISTRATION AND PLANNING
20 JUL 2015
P.O. Box 62157 - 00200, NAIROBI

Dr. Marcella Momanyi
Head of Department
Educational Administration and Planning

APPENDIX XII: RESEARCH PERMIT

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

6195

Serial No. A

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MISS. ELIZABETH ATIENO OBURA
of THE CATHOLIC UNIVERSITY OF EASTERN AFRICA, 0-200 Nairobi,has been permitted to conduct research in *Nairobi County*

on the topic: *MENTORING DOCTORAL STUDENTS FOR KNOWLEDGE TRANSFER IN HIGHER EDUCATION: A COMPARATIVE STUDY OF A PRIVATE AND A PUBLIC UNIVERSITY, KENYA*

for the period ending:
1st September,2016

.....
Applicant's Signature

Permit No : NACOSTI/P/15/5983/7396
Date Of Issue : 17th August,2015
Fee Recieved :Ksh 2,000

.....
For Director General
National Commission for Science, Technology & Innovation

APPENDIX XIII: RESEARCH AUTHORIZATION LETTER FROM NACOSTI

NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

Date:

17th August, 2015

NACOSTI/P/15/5983/7396

Elizabeth Atieno Obura
Catholic University of Eastern Africa
P.O. Box 62157-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Mentoring doctoral students for knowledge transfer in higher education: A comparative study of a private and a public university, Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **1st September, 2016.**

You are advised to report to **the Vice Chancellors of selected Universities, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

SAID HUSSEIN
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Vice Chancellors
Selected Universities.

The County Commissioner ,
Nairobi County.

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

The County Director of Education
Nairobi County.

COUNTY DIRECTOR OF EDUCATION
NAIROBI
31 AUG 2015
MINISTRY OF EDUCATION
P.O. Box 74629, NAIROBI

APPENDIX XIV: DATA COLLECTION AUTHORIZATION LETTER FROM CUEA

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Office of the Deputy Vice Chancellor
ACADEMIC AFFAIRS

Our Ref: **DCV/ACAD/116/2015**

Date: September 04, 2015

Elizabeth Atieno Obura
PhD Student, CUEA

Dear Ms. Obura,

Ref: Request to conduct Research in CUEA

I acknowledge receipt of letter dated 17th August, 2015 from National Commission for Science, Technology and Innovation on research authorization.

I am glad to inform you that permission is granted to conduct research on the topic ***"Mentoring Faculty of Education Doctoral Students for Knowledge Transfer in Higher Education: A Comparative Study of a Private and a Public University, Kenya"*** at The Catholic University of Eastern Africa provided you observe the normal ethical cautions and discretions.

I wish you well with your study and I look forward to sharing your findings with the Catholic University of Eastern Africa.

Sincerely yours,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA
OFFICE OF THE DEPUTY VICE-CHANCELLOR ACADEMIC
P.O. Box 62157 NAIROBI

Prof. Justus G. Mbae
Deputy Vice-Chancellor (Academics

APPENDIX XV: DATA COLLECTION AUTHORIZATION FROM THE UNIVERSITY OF NAIROBI

UNIVERSITY OF NAIROBI

OFFICE OF THE DEPUTY VICE - CHANCELLOR

(Research, Production & Extension)

Prof. Lucy W. Irungu B.Sc., M.Sc., Ph.D.

P.O. Box 30197-GPO.
00100,Nairobi-Kenya
Telephone: +254-20-2315416 (DI), 318262

Fax:0202317251
Email:dvcrpe@uonbi.ac.ke

UON/RPE/3/5/Vol. XV/33

October 7, 2015

Elizabeth Obura Atieno
C/o Catholic University of Eastern Africa
P.O. Box 621 – 00200
Nairobi

Dear Ms. Obura

APPROVAL TO COLLECT DATA

Your letter on the above subject refers.

Approval is hereby granted for you to collect data at the University of Nairobi for your Doctor of Philosophy degree in Educational Administration and Planning entitled, ***"Mentoring doctoral students for knowledge transfer in higher education: a comparative study of a private and public university - Kenya".***

Upon completion of your study, you are expected to share the findings of your study with the University of Nairobi by depositing a copy of your research findings with the Director, Library & Information Services.

Yours Sincerely

LUCY W. IRUNGU
DEPUTY VICE-CHANCELLOR
(RESEARCH, PRODUCTION AND EXTENSION)
&
PROFESSOR OF ENTOMOLOGY

cc. Vice-Chancellor
Deputy Vice-Chancellor (AA)
Deputy Vice-Chancellor (A&F)
Deputy Vice-Chancellor (SA)
Director, Library and Information Services

SWM/...

ISO 9001:2008 CERTIFIED

The Fountain of Knowledge Providing leadership in academics excellence

APPENDIX XVI: MAP SHOWING NAIROBI AND CUEA UNIVERSITIES

Source: Google Maps

APPENDIX XVII: MAP OF KENYA SHOWING THE LOCATION OF STUDY

Source: Google Maps