Professional Development on Innovation Competence of Teaching Staff in Ugandan Universities

George Wilson Kasule

Thesis Committee

Promotor

Prof. Dr M. Mulder

Professor of the Education and Competence Studies

Wageningen University

Co-promotor

Dr R. Wesselink

Assistant professor, Education and Competence Studies Group

Wageningen University

Other members

Prof . Dr M.A.J.S. van Boekel, Wageningen University, The Netherlands

Prof. Dr A. Pilot, Utrecht University

Prof. Dr M. Gessler, University of Bremen, Institute Technology and Education, Germany

Dr P. Kibwika, Makerere University, Uganda

This research was conducted under the auspices of the Graduate School of Wageningen School of Social Sciences (WASS).

Professional Development on Innovation Competence of Teaching Staff in Ugandan Universities

George Wilson Kasule

Thesis

Submitted in fulfilment of the requirements for the degree of doctor

at Wageningen University

by the authority of the Rector Magnificus

Prof. Dr M.J. Kropff,

in the presence of the

Thesis Committee appointed by the Academic Board

to be defended in public

on Wednesday 22 April 2015

at 1:30 p. m. in the Aula.

George Wilson Kasule

Professional Development on Innovation Competence of Teaching Staff in Ugandan Universities, 163 pages.

PhD thesis, Wageningen University, Wageningen, NL (2015)

With references, with summaries in English and Dutch

ISBN: 978-94-6257-285-0

Dedication

To all past and present persons that have academically and professionally nurtured me this far.

Acknowledgements

This PhD project, with its own hurdles as well as blissful moments, would never have materialised had it not been the help of various individuals. The project was funded by the Netherlands Organisation for International Cooperation in Higher Education (NUFFIC). I would like to express my gratitude for this support. In the same spirit, I am grateful to my employer, Kyambogo University, for granting me the study leave to pursue doctoral training at Wageningen University, one of the most highly ranked and revered universities in the Netherlands and the world. Like a figurine, this work is the fruit of four years of moulding with skill and determination. However, it would not have been possible without the benevolent support of many great and wonderful people. This research bears their imprints; it is, therefore, a pleasure to extend my sincere gratitude to them.

First and foremost, I am deeply grateful to my promotor, Prof. dr. Martin Mulder who meticulously supervised my research proposal, rudimentary as it was, to a level of getting me the highly competitive NUFFIC Scholarship. Otherwise, none of this would have happened. Martin, your knack of looking at things from different perspectives provided me with the opportunity to explore to better understand the different dimensions of social science during our research meetings. Many a times I got confused in the course of the discussions, but I now do appreciate that without confusion, there cannot be lucidity. This has helped me a lot to mature academically and professionally. Martin your detailed and constructive comments, professional knowledge, wisdom, advice, brilliant ideas in science and managerial competencies gave a good basis for the thesis and I can never thank you enough!

Special thanks also go to Dr. Renate Wesselink, the co-promotor of this PhD project and my daily supervisor, for her invaluable, ardent commitment, empathy, accessibility and willingness to help during the entire period of the project. Renate, you have been such a treasured person in helping me to set realistic goals, regulate my tension, visualise, control my thoughts as well as my concentration. Your necessary and timely guidance, support and encouragement undeniably made it possible for me to complete this meaningful and fruitful endeavour. Your contribution towards the timely completion of this research project cannot be overstated, and I can never express my gratitude well enough. In the same spirit, I am also grateful to Dr. Omid Noroozi for his thoughtful guidance, valuable comments and insightful suggestions which greatly helped me to work faster as well as improve the scientific quality of this thesis.

My sincere appreciation also goes to Prof. dr. John Opuda-Asibo, who favourably recommended me for consideration for the NFP Scholarship. Associate Professor Peter Neema-Abooki and Dr. Doris Kakuru Muhwezi, I cannot forget you for the role you played towards getting me the opportunity to undertake this PhD training. I would like to thank all my friends and colleagues at the Education and Competence Studies (ECS) department, Wageningen University. I am humbled to have had a chance to meet you, leave alone working with you. I cannot mention everyone by name, but Getachew Habtamu Solomon (Buddy) you have been a great and wonderful person beyond description. Jack Postema and your kind and lovely wife Veronica, together with your wonderful children- Bernard, Gertjan and Heleen, you cannot go unmentioned and I will always cherish your friendship and love.

My deepest appreciation goes to the teaching staff, students and Senior Administrative Staff of Kyambogo University, who provided the data that has been used in this thesis. To all the research assistants who diligently collected data for the studies conducted for this project, I would like to express my deep indebtedness. Your invaluable input was a major factor in accomplishing this research project. I am also grateful to all the administrative staff of Wageningen University in their different departments and roles for administering my NFP-PhD grant effectively and efficiently. In particular, Marja Boerrigter, Marissa van den Berg, Jolanda Hendriks-Ruisbroek and Nicolette Tauecchio of the chair group of Education and Competence Studies, you have been great and wonderful people to work with. In a special way, I would also like to thank Eghe Osagie and Dr. Ester Alake-Tuenter for agreeing to be my *paranymphs* at the defence ceremony. I am truly indebted for your benevolence and support morally, materially, academically and professionally. In the same spirit, I am grateful to Timbiti Paul for his effectiveness and efficiency in editing and proof reading my thesis.

Profoundly, I am also indebted to the members of the thesis assessment committee: Prof .dr. ir. M.A.J.S. van Boekel; Prof. dr. Albert Pilot; Prof. dr. Michael Gessler; and Assoc. Prof. Paul Kibwika who kindly agreed to be examiners of this thesis. There is no doubt that they took a lot of time and effort to review my dissertation and to participate in the public defence. Pr. Adesuwa Steenvorden, Brother Peter Morsay, Sister Kumba Chakanda, Brother Samson Afolabi and all members of the Abraham Kuyperstraat 47 House Fellowship, your prayer and moral support throughout my PhD trajectory is highly appreciated. I would also like to thank the various authors whose works were sources of reference and inspiration to my thesis. In the same spirit, my deepest appreciation goes to the reviewers as well as editors of

the various journals and conference proceedings for the relevant and constructive feedback which has greatly assisted me to improve the various chapters in this thesis.

My deepest gratitude goes to my parents, siblings, relatives and friends for their support, encouragement and contribution towards my academic life. I cannot mention everybody here, however, in a special way my foster parents (Mr. Jeremiah Bell Muwambi and Mrs. Joyce Makoro Muwambi), are highly appreciated for showing me love, care, and for modelling me into the kind of person I am today. In the same spirit, I also thank my father (RIP) and mother for their contribution in my life during my infancy. Mother, your prayers for me to become successful in every aspect of life are highly appreciated. Special thanks go to my wife and children for the overwhelming support and encouragement to complete this PhD project. With buoyancy you endured my absence and continually prayed for success.

My spouse, Teopister, you are such a wonderful and great person whose sacrifice and support favoured the completion of this project. You have been such a brilliant counsellor and comforter during the stressful moments. My children; Buwembo Joseph Kelly, Kirumira Mark Wilson, Nakabuye Martha Angel, Kasule George Matthew and Kasule David Mugagga, you have been a source of energy and inspiration to complete my doctoral studies as soon as possible in order to create more time for you. Now that it is done, I am hopeful that the future will be much better. Lastly, but not the least, I offer my appreciation to all those who helped me in one way or another to complete this training. For those whose names I may not have mentioned, it is not that your effort and contribution was not appreciated, I sincerely still have you at heart and in mind and may the Almighty bless you beyond your imagination.

George Wilson Kasule
Wageningen, April 2015

Table of Content

List of Figures and Tables

Chapter 1

General Introduction

Abstract

Sufficient university teaching staff with innovation competence is key if universities want to play a significant role in fostering sustainable development as well as improving peoples' quality of life. In this knowledge and innovation era, the need for organisations to enable their employees to acquire the competencies they need to face the diversity and complication of their present and future tasks effectively cannot be overstressed. Competence development is paramount for human resource and capacity development, which in turn can result into sustainable socio-economic development and performance improvement in the different labour sectors. Accordingly, this has led to increasing interest to develop competence profiles for the different professional in several labour sectors. However, in the university sector little is known regarding the competencies teaching staff require for innovation of higher education. As such, this thesis is set to contribute to this literature gap by presenting innovation competence domains and competencies university teaching staff require. The study also explores the pragmatic actions that are needed to enhance university teaching staff innovation competence.

1.1 Introduction

Uganda is a landlocked country in East Africa, bordered to the east by Kenya, to the north by South Sudan, to the west by the Democratic Republic of the Congo, to the south west- by Rwanda, and to the south by Tanzania. Uganda gained independence from Britain on 9 October 1962. Since then, the country has been characterised by ethnic and political conflicts, which to a significant extent, have impeded sound national development and improvement of people's quality of life (Odoi-Tanga, 2009). The current population of Uganda stands at 34.9 million people with a median age of 15 years, from 24 million in 2002 (Uganda Bureau of Statistics, 2014). The world population records indicate that Uganda is positioned 9th out of the 20 countries with the highest population growth rate in 2014 (www.statista.com/statistics/264687/countries-with-the-highest-population-growth-rate).

However, it is important to note that Uganda's rapid population growth rate without equipping its citizens with knowledge and skills they need to survive and/or thrive in the ever changing global knowledge-based economy is not only catastrophic to the development of individual Ugandans, but also to the country (Zinkina & Korotayev, 2014). For instance, Uganda's Human Development Index (which is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living) value for 2013 is 0.484. This portrays that Uganda lies in the low human development category. The country is positioned at 164 out of 187 countries and territories (Human Development Report 2014). The Government of Uganda, in an attempt to raise the country's human development index, has approved a National Vision 2040 (a transformed Ugandan society from a peasant to a modern and prosperous country within the coming two and half decades). This therefore, requires Uganda to have a good educational system, which can effectively advance science, technological, innovation and human development.

Paradoxically, Uganda is arguably one of the richest countries in terms of natural resources, and yet it remains one of the poorest and the least developed nations of the world (Torvik, 2009). It is hoped that if Uganda Vision 2040 is effectively implemented, the country would be able to address issues such as: poor health and education services; critical knowledge and skills gap in various labour fields; technology insufficiency; lack of creativity and innovation at the place of work and in society in general; and low productivity, negative attitude towards work, and a large number of Ugandans living in abject poverty (Ekou, 2013; World Bank, 2005). Nonetheless, central to the realisation of Vision 2040, Uganda needs to put in place a contemporary education system. This supposition is based on the fact that the

country's present system of education (seven years of primary education, six years of secondary education; divided into four years of lower secondary and two years of upper secondary school, and two to five years of post-secondary education) has been in existence since the early 1960s and is deemed obsolete in meeting the needs and expectations of students, parents, government, local and international labour markets (Baryamureeba, 2013; Businge, 2014; Kasozi, 2003; Kirunda, 2014). This is in line with the widespread claim that a large number of the graduates prepared by most higher education institutions in Africa have limited operational and innovation skills (Altbach, Reisberg & Rumbley, 2009; Kibwika, 2006; Ssentamu, 2013).

Over two decades have passed since African leaders and higher education experts identified in seminars held in Accra, Ghana in 1991 (UNESCO, 1992) and in Dakar, Senegal in 1992 (UNESCO, 1993) ten major areas of concern about the status and future prospects of African higher education. Some of the resolutions made, as a result of these seminars, include making sure that African higher education is able to: prepare graduates who are not only adaptable to the rapidly changing needs of African society, but also contribute to innovation and development; offer programmes that meet the African manpower needs, thus, address critical mismatch between curricula and societal needs; and improve the quality of instruction among others (Ogot & Weidman, 1993). As such, the higher education sector in most African countries, Uganda being no exception, are under increasing pressure to prepare individuals with the capability to find solutions to various problems on the African continent such as poverty, lack of democracy, poor governance, food insecurity, environmental degradation and diseases (Association of African Universities, 2013).

Nonetheless, it is worth noting that the foundation of higher education in Uganda, just like in many other colonised African countries and elsewhere, was meant to serve the colonialist interests (Cutright, 2010). For instance, in Uganda the basic goal of the British that could be achieved through higher education was the training of those required for the internal administration of the colony and the colony's essential role which was the delivery of raw materials for Britain's industries and markets (Bailey, Cloete & Pillay, 2007; Cutright, 2010; Lulat, 2005). It is over half-a-century now since British colonialism ended in Uganda, but the country has not dealt away with the higher education system left behind by the British which is obsolete in terms of structure and curricular. For instance, recent findings of the Inter-University Council for East Africa regarding the quality of graduates in Burundi, Kenya, Rwanda, Tanzania and Uganda, indicate that between 51% and 63% of graduates from the aforementioned countries are branded "half-baked" by the employers (Mohamedbhai, 2014).

Moreover, available education research indicates that teacher quality, regardless of any educational level, is one of the key determinants for the quality of the graduates in any education system the world over (Rowe, 2003), leave alone playing a fundamental role in educational reforms (Musset, 2010). This implies that university teaching staff, as a rule of thumb, should be assisted to develop innovation competence. That being said, this thesis espouses the mind of Coleman (1984) and Kibwika (2006) that one of the impediments that any university in a developing country like Uganda faces in trying to be developmental, is lack of competent teaching staff. Besides, the need for new ways of doing things in Ugandan universities demands that teaching staff acquire change and innovation competence (Kibwika, 2006) if they are to provide university education and other services that meet the needs and expectation of students, employers and society in general.

The need for change and innovation in the higher education sector in African countries like Uganda is indicated by several studies and reports. For instance, with a notable exception, most universities face various challenges related to: acute shortage of quality teaching staff; poor governance, leadership and management; inadequate finance and inability to diversify funding; poor and dilapidated educational facilities and equipment; deteriorating quality and relevance of teaching and research; limited capacity for research, innovation, knowledge generation and adaptation capabilities; and irrelevance of the educational programmes to the world of work, leading to high graduate unemployment (Association of African Universities 2013; Kibwika, 2006; Mayer, Wilde, Dinku, Fedrowitz, Shitemi, Wahlers, & Ziegel, 2011; Sawyerr 2004a; Yizengaw 2008). Consequently, Mohamedbhai (2014) reveals that a big number of graduates in Burundi, Kenya, Rwanda, Tanzania and Uganda are ill-prepared to effectively work in the ever changing global knowledge and innovation economy.

Nevertheless, it worth noting that the quality of the graduates, other factors remaining constant, more often than not, is no better than the quality of the teachers in any education system across the globe. This, therefore, underscores the need for higher education institutions in Uganda to pay due attention on innovation competence development of teaching staff so as to meet the ever changing needs of students and society as a whole. Why the concern for innovation competence? Innovation is widely accepted as the core process within an organisation associated with renewal, as it enables the organisation to revitalise what it offers and how it creates and delivers products and/or services. (Du Chatenier, 2011; Tidd, Bessant & Pavitt, 2001). Subsequently, individuals who can contribute to and participate in innovation are extremely needed in the various labour sectors (Rasmussen, 2009). A comprehensive conceptualisation of innovation is given by Watts, Garcia-Carbonell & Andreu-Andres, thus:

> ‘innovation means different things to different people. For some, it is the introduction of a novelty, something radically new, an idea, a method, a device, an invention. For others, innovation is the improvement of something that already exists. For still others, to be considered innovation, that something must be useful to people, or organisations, and meet their needs. In other words, innovation has an inherent social dimension that makes it transcend mere invention or enhancement of a product or process’(2013:5).

Regarding the conceptualisation of innovation competence, Darso (2012) posits that innovation competence is the ability to create innovation by navigating in complex processes together with others. This, therefore, implies that those dealing with innovation ought to possess a different mind-set, knowledge, skills and attitudes from those of routine nature in the organisation (Cerinsek & Dolinsek, 2009; Kibwika, 2006). In this thesis, teaching staff innovation competence is considered as cluster of separate capacities and skills that teachers need so as to improve the existing education service (Kasule, Wesselink & Mulder, 2014). It is incontestable that innovation competence regardless of context, more than ever before, is seen as an essential asset that can make an individual, organisation/firm, or country thrive in the knowledge and innovation explosion era (Darso, 2012; Kibwika, 2006). This is supported by voluminous management literature that confirms that innovative organisations, those that are able to use innovation to improve their processes or to differentiate their products and services, outperform their competitors in terms of market share, profitability growth or market capitalisation (Cerinsek & Dolinsek, 2009; Tidd, 2000). In an attempt to ensure that higher education institutions significantly contribute to the national and regional innovation system, Watts et al. (2013) have advanced innovation competencies development barometer intended to aid in the development and assessment of innovation competence.

According to Watts et al. (2013) the innovation competencies development barometer is a scoring rubric that considers three innovation competence domains. Thus:

> ‘... the individual capacity - which integrates the behaviours or skills that allow a person to innovate in the execution of tasks; the interpersonal capacity- which enhances the individual ability to innovate through the interaction with a group and represents the behaviour that make others move towards stated objectives; and the networking capacity - which represents the behaviours or skills that enable a group to find appropriate solutions in the process of completing tasks in a broader environment than usual’ (p. 5).

However, it is prudent to recognise that the different perspectives of innovation competence inevitably lead to a variation in the innovation competence profiles. For example, the ensuing

competence domains and associated competencies as advanced by Du Chatenier (2011) compose a competence profile for inter-organisational collaboration in innovation teams. These include: interpersonal management (involve, influence, handle conflicts, create learning climate); project management (take on, prevail, monitor, decide mindfully); and content management (analyse, explore, combine, compete). Nonetheless, regardless of the perspective of innovation one takes, inescapably there are some similarities (e.g. collaborating and networking with internal and external colleagues to enhance a product, service or process) in the innovation competence profile developed for a particular group of professionals.

Currently, Uganda does not have a national profile for university teaching staff as one of the measures to ensure quality assurance in Ugandan universities. Consequently, this does not only compromise the quality of teaching and learning, research, innovation and community development services , but impairs the university education sector's ability to meet the labour market demands and the country's development needs as well (Baligidde, 2013; Baryamureeba, 2013; Businge, 2014; Kirunda, 2014). As such, the focus of the present research was on: developing an innovation-oriented competence profile for university teaching staff and to explore the necessary conditions for its realisation in Uganda using Kyambogo University as a case.

1.2 Context of the Study

It is over 50 years since Uganda attained its independence from Britain in 1962. This tempts one to imagine that within these five decades, the country would be enjoying some good level of socio-economic development fostered through its higher education sector. Uganda has witnessed a rapid expansion of university education both in terms of students enrolments and the number of public and private universities in the recent past (www.unche.or.ug/institutions). For instance, the country now has six public universities, namely; Makerere established in 1922, Mbarara established in 1989, Kyambogo established in 2002, Gulu established in 2002, Busitema established in 2007 and Muni established in 2013. Meanwhile, the country has thirty one private universities, among these we have: Islamic University in Uganda established in 1988; Ndejje established in 1992; Uganda Martyrs University established in 1993; Bugema established in 1994; Uganda Christian University established 1997; and Nkumba established in 1999 (www.unche.or.ug/institutions).

In Uganda, a "Public University" means a university established by the Government and maintained out of public funds. Whereas, a "Private University" means a university established by an individual, firm or organisation other than Government and basically

maintained out of funds other than public funds (Universities and Other Tertiary Institutions Act, 2001). The private universities can further be categorised as For-Profit Universities and Universities by Religious Affiliation. For-Profit Universities refers to universities operated by a private, profit-seeking individual, firm or organisation. Whereas, religiously affiliated universities more often than not combine the mission of education with the desire to train individuals in religious practice and to evangelise others. In Uganda, 64.5% of the private universities are For-Profit universities while 35.5% are religiously affiliated universities. Notably, the country's higher education gross enrolment ratio stands at around 6.2%, slightly above the Sub-Sahara Africa average of 6.1% and far below the world average of 24% and the favoured 40% (National Council for Higher Education Report, 2012; UNESCO, 2010).

However, it is fair to argue that before establishing more universities and other tertiary institutions, it is prudent to first address the acute challenges facing the existing universities and other tertiary institutions in Uganda. For instance, the National Council for Higher Education Report, The *State of Higher Education and Training in Uganda* (2012), indicated that Ugandan universities hardly: conduct research and innovation; have sufficient well educated, trained, and developed teaching staff that are commensurate with student enrolment growth; and have adequate appropriate educational facilities and equipment among others. Several authors such as Baligidde (2013), Baryamureeba (2013), Businge (2014), and Kirunda (2014) point out that, if the aforementioned problems are not addressed urgently, Uganda's university education sector will soon or later come to a halt. This revelation certainly calls for an aggressive research agenda to explore feasible ways of revitalising Uganda's university education system if Uganda wants to develop a quality human resource base that will significantly contribute towards the realisation of its 2040 Vision.

The description of university education in Uganda (National Council for Higher Education Report, 2012) is in agreement with the huge international literature about the state of university education in most African countries. Ugandan university education, as described by various educationalists, researchers, and policy makers, inevitably calls for serious reform if it is to play a key role in fostering Uganda's national development and improving people's quality of life. This thesis argues that for Ugandan universities to be and/or remain relevant and productive in this global knowledge and innovation explosion era, leave alone meeting the needs and expectations of students, employers, and the society as a whole, the teaching staff innovation competence gaps, must be addressed at the earliest opportunity possible. This study purposely concentrated on Kyambogo University because it is the second largest out of

Uganda's six public universities and is mandated to oversee teacher education, training and development programmes in the country.

1.3 Problem Statement and Purpose of the Research

For Uganda to use university education to foster national development as well as improve the quality of life of its citizens is not contested in this thesis, but rather the challenge is to explore ways of ensuring that Ugandan universities have adequate teaching staff with innovation competence. This is buttressed by Kibwika's (2006) assertion that the model of higher education prior to the 21st century, especially in Africa, is hardly adequate for the different world of work and life conditions and challenges. Similarly if something is not done very soon, Tettey (2010) argues that due to the overwhelming shortage of adequate competent academic staff in universities in most African countries these universities will not only lose their ability to prepare adequate and competent human resource for the various labour fields, but also to uphold and protect the quality of intellectual life on the Africa continent. Hitherto, universities the world over, more than ever before are increasingly getting challenged to find ways of proving their worth not only in the preparation of students, but also how they are linked to business and industry (Henard & Roseveare, 2012). This is in consonance with the World Bank's (2000) assertion that higher education has become the modern world's basic education. However, higher education particularly in Africa, is falling further and further behind.

Ugandan universities need to transform and be more innovative and relevant in the ever changing global knowledge and innovation economy (Kibwika, 2006). However, do universities in Uganda have adequate teaching staff that can spearhead the transformation of university education in the country? If not, what mitigation measures can be undertaken to ensure that universities have sufficient teaching staff with innovation competence to effect the desirable transformation of university education that can foster the development of Uganda and improvement of people's quality of life. Besides, on top of ensuring that the majority of people in Uganda adequately meet their basic needs of life, the country also has an uphill task of keeping pace with the fast moving global knowledge and innovation economy. Thus, a double development dilemma which is common in most African countries. This, certainly, puts the realisation of their development aspirations in jeopardy, if they do not henceforth instigate pragmatic actions.

In an attempt to address the double development dilemma, most African countries, including Uganda, have launched ambitious Visions. For instance, the Uganda Vision 2040

aims at: developing and implementing a national science technology and engineering system that will help in initiating, importing, modifying and incorporating new technologies; developing and nurturing a national value system to change citizens' mind-sets, promote patriotism, enhance national identity and nurture a conducive ideological orientation; and accelerating reforms in the education system and the curriculum to obtain a globally competitive human resource with skills relevant to the development paradigm, among others. Vision 2040, specifically, singles out education and innovation as one of the key avenues to reach the desired national development goals and aspirations of Uganda. This is grounded on the premise that the quality of the population (human resource base) and the type of education, especially university education are, two critical elements for progress of any country (Pillay, 2010a; Pillay, 2010b).

However, the current quality of university education in Uganda has a low rating since the relevance of most of the study programmes offered is highly contestable (Baryamureeba, 2013; Kasozi, 2003; Mamdani, 2007). As such, it is undeniable that the present state of higher education training and delivery can hardly play a significant role in helping Uganda achieve its Vision 2040 goals of overcoming the problems of poverty, disease, poor social services, poor governance, poor infrastructure and food insecurity, among others (Kibwika, 2006; National Council for Higher Education Report, 2012). This is buttressed by the recent research findings presented by the World Economic Forum (2010) regarding participation in the knowledge economy in the African context. These findings show that Uganda's higher education and training quality and innovation capacity is the lowest within the East African region and is ranked at 108 out of 132 countries globally.

There may be several factors that are responsible for the aforementioned situation, for instance, the country's higher education system, which predominantly encourages memorisation rather than innovation and problem-solving (Baryamureeba, 2013; Kasozi, 2003; National Council for Higher Education Report, 2012). Consequently, graduates prepared in Ugandan universities are labelled as having more theoretical knowledge than practical and innovation competence (Kasozi, 2003; Kibwika, 2006). This concurs with Asiimwe, Ezati, Mugisha, Muhangi, Onweg & Nnsabagasani's (2001) study, which revealed gaps between the qualities of Ugandan graduates and what actually the labour market demands. It is now over a decade since this revelation was made, but the situation has not changed for the better. On the contrary, it is just getting worse (Baligidde, 2013; Baryamureeba, 2013; Businge, 2014; Kirunda, 2014). Hitherto, graduates more than ever

before enter a world of employment that is characterised by greater uncertainty, speed, risk, complexity and interdisciplinary working (Henard & Roseveare, 2012).

In view of the aforementioned, universities in Uganda have a challenge of preparing a new type of graduates, not only with the appropriate knowledge and skills needed by the labour market, but with innovation competence to foster quality of production of goods and services in the world of work and society in general (Kibwika, 2006). For this to happen though, the obstacle of lacking teaching staff with innovation competence as advanced by Coleman (1984) and Kibwika (2006) has to be mitigated. The demand for highly innovative people in organisations imply that teaching staff in universities have to play a significant role in making sure that their students develop innovation competence so as to add value at the place of work and society as a whole. In this light, there is a great need to have insight into what needs to be done to develop teaching staff innovation competence in universities. This supposition is rooted in the belief that innovation-oriented teachers will most likely prepare innovation-oriented students. Moreover, universities are expected to educate students to become well informed and deeply motivated citizens who can think critically, analyse problems of society, look for solutions to the problems of society, apply them and accept social responsibilities (Kibwika, 2006; Mulder, 2010; Mamdani, 2007; Wesselink, 2010). Putting it succinctly, universities should prepare and train students to become capable and qualified professionals who can analyse, conceptualize, synthesize, and cope with complex and authentic problems (Kasule et al. 2014).

That being said, some of the notable problems that hinder universities in Uganda from meeting the needs and expectations of students, employers and society in general, as pointed out by: Enemark (2005); Kasozi (2003); Kibwika (2006); Mamdani (2007); and O'Sullivan (2010), include lack of initial teacher education, training and profession development for university teaching staff and weak research and innovation capacities of teaching staff and students, among others. Apparently, little attention is paid to university teaching staff's professional training and competence development in Uganda (Kasule et al. 2014). In addition, the country lacks a national profile that could be used to guide the university teaching staff recruitment, education, training and development. Consequently, the current population of teaching staff in Ugandan universities, with notable exception, hardly engage in research and innovation (Kasozi, 2003; Kibwika, 2006; Mamdani, 2007).

If the teaching staff in Ugandan universities do not actively engage in research and innovation, it is not debatable that Uganda may further lag in development (Baryamureeba, 2013; Kasule et al. 2014). This is owed to the realisation that universities these days and in the

future are supposed and expected to play a leading role in science, technology and innovation as well as cooperating more with the local and international communities to advance the frontiers of knowledge (Buckley, 2012; De Weert, 2011). Up to till now, there is little literature regarding the kind of competencies university teaching staff require to effectively act in the field of innovation as well as to pass on innovation knowledge and skills to their students. This study by presenting an innovation competence profile for university teaching staff, innovation-oriented professional development activities, institutional and personal factors that enhance university teaching staff innovation competence, provides invaluable insights towards effective teaching staff management and development policies and practices, which in turn can enable the higher education sector play a significant role in national development and quality improvement of people's life in developing countries like Uganda. This is because both the key internal and external university education stakeholders, for instance. students, university managers, employers, and parents can have a point of reference regarding what competencies university teaching staff need to provide relevant education, training and other university services that foster the progress of individuals and society as a whole and how such competencies can be enhanced.

1.4 Research Questions

The general research question that guided this study was: *which competence domains are required by university teaching staff for innovation and what are the necessary conditions for their enhancement?*

Accordingly, the ensuing sub research questions guided the empirical studies that led to insights in answering the aforementioned overall research question:

1. Which innovation competencies do university teaching staff require?
2. What is the current status of teaching staff innovation competence at Kyambogo University?
3. Which professional development activities are perceived as being important for Kyambogo University teaching staff innovation competence?
4. Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?

1.5 Research Design

This study used a mixed methods research design to explore the necessary conditions for developing innovation competence of university teaching staff. The mixed methods research design involves collecting and analysing both quantitative and qualitative data in a single study in an attempt to investigate a research problem in a more comprehensive manner (Creswell, 2012). In the event that it is the first time innovation competence development of university teaching staff was being investigated, qualitative methods, for instance, literature study and exploratory interviews are considered appropriate. As such, this design was preferred for this study basing on the supposition that it would produce a relatively complete picture in understanding the necessary conditions for developing teaching staff innovation competence in Ugandan universities, for instance, Kyambogo. The empirical studies presented in this thesis are exploratory and descriptive in nature (see Table 1.1).

Table 1.1: Summary of Research Methodology

	Study 1	**Study 2**	**Study 3**	**Study 4**
Goal	Developing an innovation competence profile for university teaching staff, by theoretical identification of competence domains and competencies, resulting in a preliminary profile. Validating the profile by using key Kyambogo University internal stakeholders	Assessing the current university teaching staff innovation competence at Kyambogo University	Identifying professional development activities perceived as being important to enhance teaching staff innovation competence	Identifying the influence of hygiene and motivational factors on university teaching staff innovation competence enhancement at Kyambogo University
Main research questions	Which innovation competencies do university teaching staff require?	To what extent do teaching staff in at Kyambogo University possess innovation competence?	Which professional development activities are perceived as being important for university teaching staff innovation competence enhancement?	Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?
Nature of the study	Qualitative and quantitative exploratory study	Quantitative descriptive study	Qualitative and quantitative exploratory study	Quantitative descriptive study
Research Strategy data analysis	Literature review: comparing and integrating previous research findings on higher education teacher competence and competencies. Questionnaire survey (based on literature review findings) Descriptive statistics	Questionnaire survey (based on study 1 findings) Descriptive statistics and ANOVA	Exploratory interviews: content analysis technique Questionnaire survey: Descriptive statistics, ANOVA and Pearson's r	Questionnaire survey: Descriptive statistics and Pearson's r
Data sources	Empirical literature on competencies needed by teaching staff for innovation (n = 28) University SAS, teaching staff and students (n = 261) at Kyambogo University	University Senior Administrative Staff, teaching staff and students (n = 570) at Kyambogo University	Teaching staff leaders (n = 20), University SAS and teaching staff (n = 330) at Kyambogo University	Teaching staff (n = 390) at Kyambogo University

The exploratory research design is considered appropriate when a study is undertaken with the objective of either to explore an area, where little is known or to investigate the possibilities of undertaking a particular research study (Kumar, 2011). On the other hand, the descriptive research design attempts to describe systematically a situation, phenomenon, or describes attitudes towards an issue (Kumar, 2011). The characteristics of the four separate studies, described by goal, main research question, nature of the study, research strategy and data analysis, and data sources are presented in Table 1.1.

1.6 Synopsis of the Thesis

In this thesis, four empirical studies are presented in chapters 2 to 5, respectively. These studies are based on the four main research questions that guided this research project (see Table 1.1). The chapters can be read independent of each other and have been either submitted as articles or already published in an international peer-reviewed journal. As mentioned earlier, Ugandan universities lack adequate teaching staff with the capability to perform their duties in improved and/or new ways that meet the needs and expectations of students, employers and society in general (Baligidde, 2013; Baryamureeba, 2013; Kasozi, 2003; Kibwika, 2006). In this light, the need to address the teaching staff competence gaps in Ugandan universities cannot be over underscored. Consequently, the first aim of this thesis is to establish the competence domains and competencies that teaching staff require for innovation. This research aim and the subsequent research question is addressed in chapter 2. A systematic literature review led to the development of a profile comprising five competence domains: innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship and fourteen competencies associated with the aforementioned competence domains.

By means of a questionnaire survey, in which university Senior Administrative Staff (SAS), teaching staff and students participated, it is established that all the five competence domains and associated fourteen competencies as identified in the literature study, are deemed as being important for university teaching staff to act competently in the field of innovation. As such, this provided the answer to the first research question of this study, i.e. *which innovation competencies do university teaching staff require?* All the subsequent studies are based on the five competence domains and fourteen competencies as profiled in chapter 2. Teaching at all educational levels in the knowledge and innovation era is increasingly becoming complex. Thus, teachers require to possess change and innovation competence so as to cope with the challenges facing the teaching profession (MacBeath, 2012). However, it

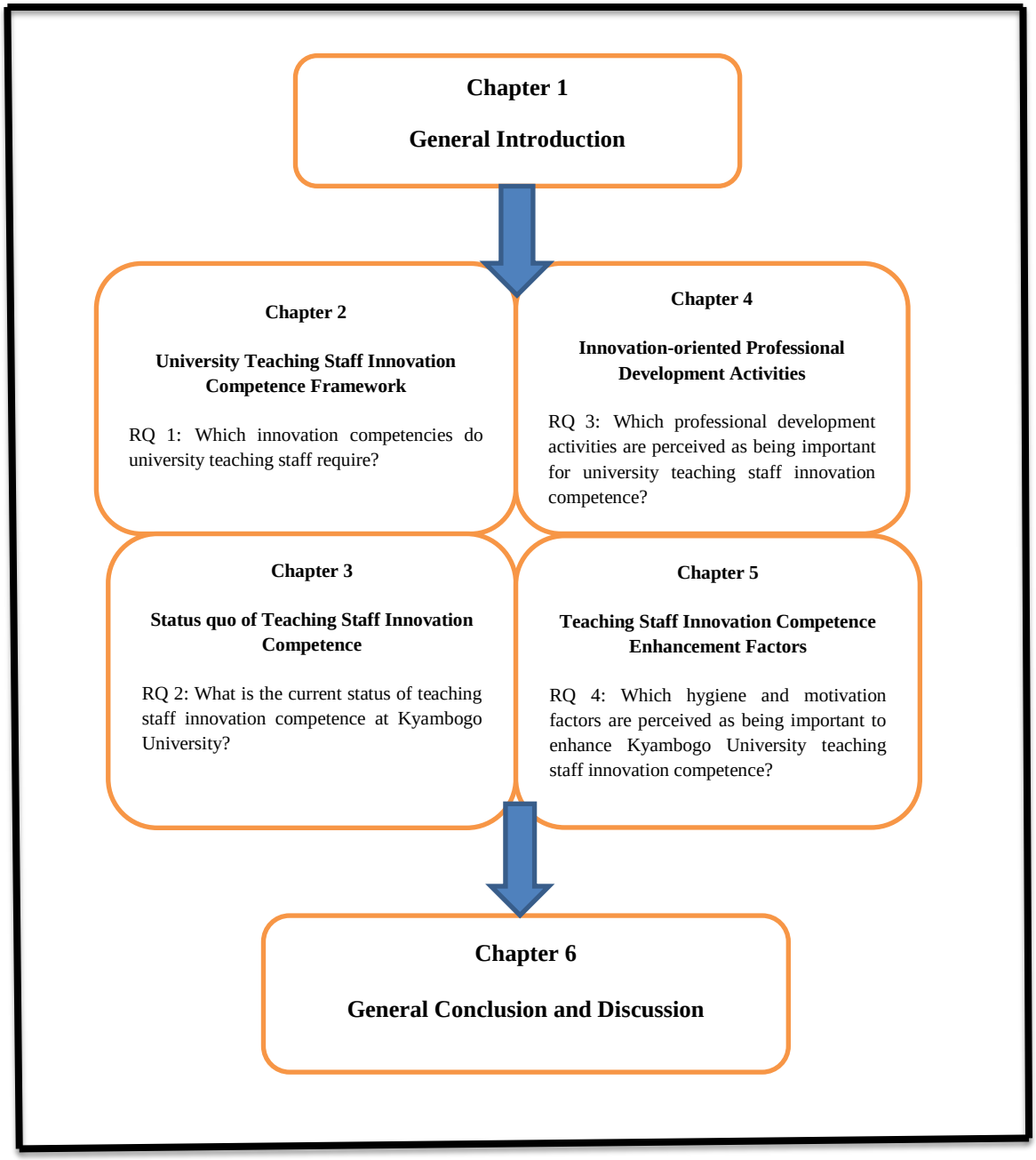
is important to realise that having a good understanding of university teaching staff innovation competence status quo, precedes any innovation competence enhancement endeavour. For this reason, a questionnaire survey involving university SAS, teaching staff and students was conducted. The main research question that guided the second empirical study is answered in chapter 3 and is: *What is the current status of teaching staff innovation competence at Kyambogo University*? The need for professionals to continue learning so as to remain relevant and productive in the world of work and society in general cannot be overstated.

Altany (2011), for example, avows that professional development is critical for teachers because: it promotes one's responsibility for continuous career-long growth, based upon, not only the trial and error of experience, but also theory, research, and professional collaboration with colleagues. In addition, it also promotes regular reflection and exposure to new ideas and information that can be used to effectively perform present and future job tasks. Likewise, professional development is key because it provides opportunities for teachers to learn about learning, about teaching, about students, and about themselves. Accordingly, make teachers aware of what they do, asks them why, and challenges them to continually do it better; and ultimately is central in improving the academic experience at institutions for teachers and students. However, up to till now, there is little scientific literature regarding innovation-oriented professional development activities for university teaching staff. Accordingly, in chapter 4, the following research question through exploratory interviews and a questionnaire survey is answered: *Which professional development activities are perceived as being important for university teaching staff innovation competence enhancement?*

Management literature indicates that job performance is a function of motivation, ability, and the environment in which people work (Anyim, Chidi & Badejo, 2012). However, this begs the question whether this notion could be applicable to innovation competence enhancement of employees, for instance, university teaching staff. As such, chapter 5 deals with examining institutional and personal factors that are perceived as being important to enhance university teaching staff innovation competence using Herzberg's Two-Factor Theory. By means of a questionnaire survey, the following question is answered: *Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?* Finally, in the last chapter of this thesis, the main findings are described and discussed. The last chapter begins with a summary of the main findings. Thereafter, a general discussion about the four empirical studies together with their theoretical and practical implications is done. The last chapter ends with some

limitations on the reported research and suggestions for future research. Figure 1.1, provides a schematic overview of the chapters that constitute this thesis.

Figure 1.1: Schematic Overview of the Thesis



Chapter

2

Developing an Innovation Competence Profile for Teaching Staff in Higher Education

This chapter is based on an article published as: Kasule, G.W., Wesselink, R. & Mulder, M. (2014). Developing Innovation Competence Profile for Teaching Staff in Higher Education in Uganda. *Journal of Education, 2*(2), 1- 26.

Abstract

Literature indicates that university education in most African countries like Uganda needs reform, if it is to significantly contribute to socio-economic development. Nonetheless, any effort to reform university education without, an understanding of the competence needs of university teaching staff to execute their tasks in new and/or improved ways, is not judicious. This study, using exploratory research design, established competence domains with their underlying competencies university teaching staff require for their present and future university service. Data was collected through: a systematic literature review; and a questionnaire administered to university Senior Administrative Staff (SAS) (n = 90), teaching staff (n = 126) and students (n = 45) at Kyambogo University in Uganda. The main study results showed that university teaching staff innovation competence profile should comprise five competence domains and fourteen associated competencies. The competence domains include innovating, knowledge society facilitating, collaborating and networking, higher education designing and developing, and entrepreneurship. The study concluded by pointing out the need to establish the extent to which Ugandan university teaching staff possess competencies required to be effective in the field of innovation. The study furthermore provided results which can be used in university teaching staff recruitment and development. As such, the findings of this chapter serves as theoretical framework for the next parts of this dissertation.

2.1 Introduction

"Education is the most powerful weapon we can use to change the world." Nelson Mandela

It is widely acknowledged that university education can play a central role in fostering socio-economic development in developing countries (World Bank, 2002). Notwithstanding the rapid expansion of university education enrolments in Africa, there are serious concerns about the capacity of most universities to prepare graduates with the capability to foster socio-economic development, particularly in a country like Uganda (British Council, 2014; Kibwika, 2006). Literature indicates that most universities in countries in the Sub-Sahara Africa region, for instance, Uganda face various challenges related to serious shortage of competent teaching staff, poor governance, leadership and management, inadequate finance and inability to diversify funding, poor and dilapidated institutional facilities and equipment, deteriorating quality and relevance of teaching and research, limited capacity for research, innovation, knowledge generation and adaptation capabilities; and irrelevance of the educational programmes to the labour market, consequently, leading to high graduate unemployment (Association of African Universities, 2013; Mayer, Wilde, Dinku, Fedrowitz, Shitemi, Wahlers & Ziegel, 2011; Sawyerr, 2004a; Yizengaw, 2008). In this light, it is fair to deduce that the current state of university education in most African countries can hardly play a significant role in addressing socio-economic development needs and challenges the African continent is facing (British Council 2014; Yizengaw 2008).

Most African countries, Uganda being no exception, are struggling to help their people meet the basic needs of life (Human Development Report, 2014). At the same time, they have to keep pace with the 21st century knowledge and innovation era trends. This condition in our view can in technical terms be described as a double development dilemma, which can absolutely diminish the hope of countries like Uganda to catch up with the developed world. As such, African countries cannot afford to keep on doing things in obsolete ways and expect to come out of their predicaments. For instance, literature indicates that most of the graduates from Ugandan universities lack essential competencies needed in the ever changing competitive global knowledge economy. Thus, the need to reform university education in Uganda cannot be overstressed (Baryamureeba, 2013; Businge, 2014; Kasozi, 2003; Kibwika, 2006).

Besides, in university education, sound teaching and learning quality in degree programmes is taken to be the sine qua non of enhancing graduate employability (British Council, 2014). Thus, the need to have relevant and high quality university education in Uganda capable of preparing a workforce with the capability to foster socio-economic

development is a matter of top priority. This is key, if Uganda wants to attain its Vision 2040 of transforming itself from a peasant to a modern and prosperous country within the coming three decades. To this effect, there are relentless appeals to reform university education in Uganda so that preparation of a relevant and productive workforce capable of fostering socio-economic development in the country is realised (Baryamureeba, 2013; Kasozi, 2003; Kibwika, 2006).

Besides, universities across the world have to respond to the continuing and disruptive technical and social innovations and the ways in which they use them (disruptive innovation as used in business and technology literature is seen as an innovation that helps create a new market and value network, and eventually disrupts an existing market and value network, displacing an earlier technology) according to Christensen (1997). Nonetheless, it is important to recognise that if any meaningful university education reform is to take place in any country regardless of context, the lack of adequate competent teaching staff must be addressed first. Moreover, literature indicates that there is a significant relationship between the quality of teaching staff and the quality of teaching and learning, research, innovation and community services provided by a particular institution of higher learning (Henard & Roseveare, 2012). In most African countries, lack of adequate competent university teaching staff is exacerbated by the lack of a national university teacher profile. As such, individual universities develop their own job descriptions for their teaching staff.

Consequently, the aforementioned makes the regulation of quality teaching and learning, research, innovation and community service provision in Ugandan universities problematic. Thus, this study by using Kyambogo University as a case, sets out to contribute towards filling this gap in scientific literature by developing an innovation competence profile for university teaching staff in Uganda. It is hoped that this can act as a good point of departure for university teaching staff recruitment, education, training and development in Ugandan higher education institutions. The next section presents the theoretical framework that guided this study. This is followed by methods and results in which the study outcomes are presented. The discussion section comments on these results. Lastly, limitations of the study and suggestions for future research and the study conclusion, are presented.

2.2 Theoretical Framework

The higher education sector is essential in helping to resolve the immense global challenges we are facing in the 21st century. As such, universities are required to educate future professionals in the various labour sectors that will foster national development as well

as improving people's quality of life. It is incontestable that universities are vital for conducting research and researcher training, thus, are important for knowledge generation and innovation to meet both local and global societal and economic needs (European University Association, 2010). Due to a number of drivers of change in university education today and in the future such as technology, globalisation, changing demographics, the economy, changing employer needs, increased demand for accountability, and changing student expectations (Casares, Dickson, Hannigan, Hinton & Phelps, 2011), teaching staff in universities, regardless of context, are under increasing pressure to provide relevant education and training that meets the needs and expectations of individuals and society as a whole.

The world of work has become more complex as knowledge rapidly gets obsolete and the requirements for employees' competence constantly increase (Mulder, 2014; Vasiliauskiene, Stanikuniene & Lipinskiene, 2005; Wesselink, 2010). Specifically, in the higher education sector, issues such as: massification of higher education; changing needs of the labour market and society in general; and changing student needs and learning styles among others, all call for university teaching staff to be assisted to acquire the right competencies that can enable them address the aforementioned challenges appropriately. The available literature on higher education teacher competencies is generic in nature and does not talk about innovation competence of teachers in higher education.

For instance, Smith & Simpson (1995), through the use of expert opinion, a panel of national leaders in college-level teaching validated twenty seven competencies as important for university teaching staff (categorised into: scholastic; planning; management; presentation and management; evaluation and feedback; and interpersonal domains). Similarly, Tigelaar, Dolmans, Wolfhagen & Van der Vleuten (2004) also developed and validated a framework for teaching competencies in higher education. Tigelaar et al. (2004) advance the following higher education teacher competence domains: The Person as Teacher, Expert on Content Knowledge, Facilitator of Learning Processes, Organiser and Scholar/Lifelong Learner. Furthermore, a recent study conducted by Guasch, Alvarez & Espasa (2010) spells out the competencies a university teacher must have in order to teach in virtual learning environments.

However, emerging issues (e.g. disruptive innovation, social media) in the ever changing global knowledge-based economy demand that university teaching staff rethink about what they do, how they do it, and for what purpose at the individual, organisation and community level. Besides, the paradigm shift towards transformational learning (Mezirow, 1991, 2000, 2003), lifelong learning (Knapper & Cropley, 1985) and the learning organisation

(Levin & Greenwood, 2001; Senge, 1990) all require universities to reposition themselves in all aspects of their operations. Transformational learning in simple terms can be perceived as learning that induces more far-reaching change in the student than other kinds of learning, especially learning experiences which shape the student and produce a significant impact, or paradigm shift, which affects the student's subsequent experiences (Clark, 1993). Lifelong learning is comprehensively defined by the European Commission (2012), thus: 'all learning activity undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment-related perspective'.

This study builds on Kibwika's (2006) work about learning to make change-developing innovation competence for recreating the African university of the 21st century. In addition, the study also builds on the work of Du Chatenier (2011) on developing a competence profile for inter-organisational collaboration in innovation teams. Kibwika's study, for instance, identified key competence challenges for agricultural professionals to engage with farmers in an innovation system. It also described how an innovation competence development programme for university lecturers can be designed and implemented to respond to the challenges of agricultural development. Meanwhile, Du Chatenier's study focused on establishing competencies professionals in an open innovation team need in order to contribute to its success. Available literature indicate that innovation is considered to be crucial for addressing societal and economic challenges and opportunities. Consequently, higher education institutions are under increasing pressure to equip the masses with innovation knowledge and skills (Kropff, 2014). Apparently, we know very little about the competence domains and the competencies university teaching staff require for innovation. As such, this study aimed at making a contribution towards filling this gap. Consequently, this study was guided by the following research question: *Which innovation competencies do university teaching staff require?*

2.3 Methods

2.3.1 Design of the Study

This study consisted of 1. a systematic literature study and 2. a survey amongst relevant stakeholders in Kyambogo University. The study used an exploratory research design. This design was considered appropriate, because in social science research, it is widely agreed that an exploration is needed to find out important variables to study quantitatively when there is little or nothing known about a situation or when a researcher wants to confirm results in a wider population (Morse & Niehaus, 2009). It is also asserted

that in an exploratory study, the results obtained from the qualitative studies can be used as a basis to conduct quantitative studies which in turn supplement and/or aid deeper understanding of a situation under investigation (Creswell, 2013).

As said, the present study used a systematic literature review to empirically gather qualitative information in order to identify the competence domains and competencies, university teaching staff require for innovation. Thereafter, a cross-sectional survey was conducted to validate the profile generated from the systematic literature review. The survey involved internal key university education stakeholders (university Senior Administrative Staff (SAS), teaching staff, and students) at Kyambogo University.

2.3.2 Context and Participants

The study was conducted at Kyambogo University, the second largest out of Uganda's six public universities. Kyambogo University was selected because one of its cardinal roles is to oversee teacher education, training and development programmes in Uganda. In its role, the University has direct collaboration and linkage with key stakeholders in Uganda's higher education sector. The study used stratified purposeful sampling so as to capture the major variations that may exist among the SAS and teaching staff (see Patton, 2001). Putting it succinctly, this was done in the following manner: a) SAS were stratified according to their Administrative Units. Thereafter, the selection of the participants within each Administrative Unit was done according to the SAS's job scales (M1 – M3:Top SAS; M4 – M5:Middle SAS; M6 – M7:Bottom SAS).

The teaching staff were stratified according to their Faculties and Departments. It is worth noting, that at Kyambogo University majority of teaching staff are at the rank of Lecturer and Assistant Lecturer. As such, further stratification by rank so as to capture the variations of teaching staff by rank was not considered. For that reason, simple random sampling of teaching staff at the Faculty and Department level was considered sufficient (see e.g. Amin, 2005; Kumar, 2011). Simple random sampling was used to select the students because they were considered to be homogenous because they were all pursuing the same course. As such, this sampling techniques was considered appropriate so as to accord each of the student an equal and independent chance of being selected for the study (Kumar, 2011). Krejcie & Morgan (1970) sample determining table was used to report the sample size (Table 2.1).

Table 2.1: Sample and Sampling Technique

Category of Participants	Population	Sample	Sampling Technique
SAS	190	130	Purposive
Teaching staff	420	200	Simple Random
Students	80	66	Purposive
Total	690	396	

In the context of Uganda, there are three categories of staff in a Public University, namely, the academic staff, the administrative staff and support staff. The administrative staff consist of persons employed by the University, other than academic staff, holding administrative, professional or technical senior posts established by the University Council for the efficient management and running of the University (see Universities and Other Tertiary Institutions Act, 2001: As Amended in, 2003 and As Amended in, 2006, Enacted by the Parliament of the Republic of Uganda As Act 7). The study involved SAS in senior administrative, professional or technical senior post within the top university job scales raging from M1 to M7, e.g. the University Vice-Chancellor, Deputy University Vice-Chancellor, Academic Registrar, Dean of Students, University Secretary, Librarian, and Bursar are some of the top management university officer that are in the job scale of M1 – M3. Putting it succinctly, the SAS were chosen because they all have contact with teaching staff and are able to assess the innovation competence domains needed by teaching staff. Besides, most of SAS have teaching experience themselves or still have a part-time teaching assignment.

Students were selected from the Master of Education degree in Policy, Planning and Management, because a majority of them is working with the Ministry of Education and Sports, for instance as inspectors of schools, assistant commissioners, or with the Uganda National Examination Board, the National Curriculum Development Centre, or the National Council for Higher Education. As such, they were considered as a special group of study subjects who would give useful insights regarding the competence domains and competencies university teaching staff require for innovation. They did not only answer the question from their perspective as student, but also from the perspective of professional engagement with the education sector.

The teaching staff were chosen because they are key actors in the initiation and implementation of university tasks. It is incontestable that university teaching staff in Ugandan public universities, Kyambogo being no exception, are appointed basing on possession of high intellectual potential reflected by academic credentials. As such, it was hoped that the teaching staff through critical and analytical thinking would give invaluable information regarding the competence domains and competencies they require for innovation.

Moreover, although literature on quality of higher education in Africa indicates that teaching staff in most higher education institutions are not performing as desired currently, they are the ones to be involved if one is talking about them and more so when we want to reform the education system.

2.3.3 Procedure

The development of the university teaching staff innovation competence profile was done in two stages. In the first stage, a systematic literature review led to the generation of competence domains and their underlying competencies considered important for university teaching staff for innovation and to equip students with innovation knowledge and skills. In the second stage, a cross-sectional survey questionnaire involving university SAS, teaching staff, and students was conducted. This aimed at gaining consensus on the generated competence domains and associated competencies from the systematic literature review. These stages are elaborated in details as follows:

Literature search

In this study, a systematic literature review was conducted in order to generate a first draft of the university teaching staff innovation competence profile. This method is considered appropriate in social science research because it can be duplicated, leave alone being a transparent procedure for determining what is currently known or stated about a certain phenomenon (Kumar, 2011). In addition, the systematic literature review method also provides valuable insight regarding the appropriate research methodology that can be used in a particular study; broaden one's knowledge base in the research area; and makes it possible to contextualise the study findings (Kumar, 2011). Creswell's (2002: 86) five-step process ('…identifying terms to typically use in your literature search; locating literature; reading and checking the relevance of the literature; organising the literature you have selected; and writing a literature review.') in general acted as a useful guide to accomplish a systematic approach in the literature study. As such, the literature review process in this study consisted of three stages described below:

Formulation of Inclusion and Exclusion Criteria

To come to a useful list of literature materials, an inclusion and exclusion criteria were formulated. The inclusion criteria were as follows: a) relevance of each publication (i.e. publication had to be about teacher competencies and innovation in higher education institutions); b) peer reviewed articles; c) publications only written in English were considered; and d) the literature search time span was limited from the year 2000 to 2012.

This is mainly because it is during this period that debates about the role of higher education in building knowledge and innovation societies became a top priority for educators, researchers, governments, and policy makers (Brennan, King & Lebeau, 2004; James, Guile & Unwin, 2011; Meek, Teichler & Kearney, 2009; OECD, 2008; Pargaru, Gherghina & Duca, 2009; World Bank, 2002). This made it possible to get a thorough overview of the recent research on teacher competencies and innovation in higher education institutions. Publications reporting on educational innovations in higher education (e.g. integration of ICT in the teaching and learning in higher education, online distance Education learning, etc.) and their implementation were beyond the scope of this review, and were excluded from the review.

Development of a Search Strategy

In order to develop a search strategy that would lead to development of a comprehensive list of competence domains and their underlying competencies, various search terms were identified as being the most informative. The search descriptors included: innovation knowledge and skills, creativity skill development, innovation skill development, and teacher competenc*OR Skill? OR Capabili* OR Knowledge, each in combination with higher education, and university. Quotation marks were employed to search for phrases. The search strategy focused on title, abstract, and key words. As such, this made it possible to get publications which talk about knowledge and skills university teaching staff require for innovation.

Identification of Relevant Publications

Four data bases were searched: the Web of Science® (WoS), Scopus, Educational Resources Information Centre (ERIC) and Google Scholar. The abstracts of the publications resulting from the aforementioned search strategy were screened for relevancy. If the abstract provided insufficient information, then the full text was perused to determine whether or not the publication was in line with the inclusion criteria. In this study, 45 publications were found to have information on teacher competencies, innovation and creativity, innovations in education, innovation knowledge and skills in higher education institutions. After independently perusing the identified articles, the two researchers that were involved in the systematic literature search agreed that 28 (62%) articles had useful information for the study.

Validation Questionnaire of University Teaching Staff Innovation Competence Profile

A cross sectional survey questionnaire basing on results from the literature study was conducted (see Table 2.2 & 2.3). The questionnaire comprised fourteen items representing the competencies university teaching staff require for innovation. A five-point Likert scale

ranging from not important = 1 to extremely important = 5, was used. The survey questionnaire (paper and pencil questionnaire type) aimed at establishing the degree of importance of the identified competence domains and competencies, from the literature for university teaching staff to act competently in the field of innovation, as judged by the university SAS, students and the teaching staff themselves. Krejcie & Morgan (1970) state that in a research population of 700 people, it is considered adequate to involve at least 248 participants. This study met this criterion and tried to involve as many respondents in the study as possible. Besides, in a survey research, the more people participate in the survey, the better for the results to be generalisable to the entire population. After screening for missing data, of the 396 questionnaires administered to the sample population (Table 2.1), 261 questionnaires were returned and considered usable. This represents a 65.9 per cent response rate, thus, making the results generalisable to the sample population (Kumar, 2011).

2.4 Data Analysis

Literature review

Content analysis was performed to analyse data from the literature study. Specifically, the conceptual analysis technique was performed to analyse set of words or phrases that portrayed the knowledge and skills university teaching staff require for innovation. To begin with, the first and second authors decided upon the level of analysis i.e. to code sets of words or phrases that depict innovation knowledge and skills, innovation skill development, and teacher competence in higher education or university. Next, a decision regarding how many different concepts were to be coded and how they would be distinguished from each other was made. Basing on the existing competence domains for higher education (see e.g. Smith & Simpson, 1995; Tigelaar et al. 2004; Guasch et al. 2010) from the reviewed literature, we developed five coding categories. Accordingly, identification of items belonging to each of the five categories was made (Table 2.2).

Subsequently, qualitative content analysis was performed on the data generated from the literature study (Table 2.2). Qualitative content analysis is perceived as a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Stemler, 2001). The first and second authors were involved in summarising the ideas and/or concepts regarding the knowledge and skills university teaching staff require for innovation. This led to the generation of the higher education teacher innovation competence profile draft (Table 2.3). Moreover, when human coders are used in content analysis two coders are considered sufficient. It is also worth noting, that reliability of

human coding is often measured using a statistical measure of inter-coder reliability or the degree of agreement among two or more coders (Neuendorf, 2002). This study meet this criterion as the differences between the coders were discussed until agreement was reached

Cross sectional survey

The survey questionnaire was developed basing on higher education teacher innovation competence profile draft generated from the literature study. The questionnaire in total had 14 items, distributed among five competence domains as follows: innovating – two; knowledge society facilitating – three; collaborating – three; higher education designing and developing – four; and entrepreneurship – two (see Table 2.3). The questionnaire also had one open-ended question that required the respondents to suggest items, they feel should be included on draft higher education teacher competence profile as generated from the literature. Descriptive statistics were used to summarise and describe the participants' responses regarding the extent of agreement or disagreement of the importance of the competence domains and competencies as presented in higher education teacher innovation competence profile draft (Table 2.4). Thereafter, an ANOVA test followed by a Post Hoc Tukey Test were used to find out whether the mean scores of the university SAS, teachers and students are significantly different from one another or they are relatively the same. In the present study, the degree of importance of the university teaching staff innovation competence domains and competencies as perceived by the university SAS, students and the teaching staff themselves was defined as follow: < 1.4 is not important; between 1.5 and 2.4 is slightly important; between 2.5 and 3.4 is important; between 3.5 and 4.4 is very important; and between 4.5 and 5.0 is extremely important.

2.5 Results

The main objective of this study was to establish competence domains and associated competencies university teaching staff require for innovation. The results from the literature study are presented first, followed by the results from the cross-sectional survey.

Literature study results

Table 2.2: Overview of Innovation Competencies Higher Education Teachers Require Traced in Empirical Literature

Competence domain	Innovation competencies needed by teaching staff
Innovating	- Being open to innovations; leading innovation (Fritsch & Schwirten, 1999; Karacaoglu, 2008; Lester, 2005) - Taking risk to try out new things and learning from action as a reflective practitioner; facilitating effective communication for problem solving; thinking systemically and influencing development through action research and process consultancy; influencing systems change from within (Kibwika, 2006) - Being flexible and reflexive, innovative and creative thinking to change (Nicoll & Harrison, 2003; Van Dam et al. 2010) - Producing of new knowledge, technology and quality graduates; co-create innovations and improvements in society (Laine et al. 2008) - Provide young citizens with the competences they need to adapt to globalised, complex environments, where creativity, innovation, initiative, entrepreneurship and commitment to continuous learning are critical for surviving and/or thriving in our ever changing world (Caena, 2011) - Researcher, consultant (Briggs, 2005; Velasco, Martínez, & Ferrero, 2012)
Knowledge society facilitating	- Facilitating learning processes (Tigelaar et al. 2004) - Creating self-awareness and developing people's hidden potential; facilitating interactive learning, teams promoting peer learning, and collective action processes; and instilling a culture of honesty, commitment and integrity (Kibwika, 2006; Van Dam et al. 2010) - Learning mediator; supporting of lifelong learning (Harley et al. 2000; Karacaoglu, 2008; Stefanov, Nikolova, Ilieva, & Stefanova, 2008) - Self-evaluation and professional development (Pantic et al. 2011) - Enhancing student learning experiences; use information and communications technologies in the instructional process (Karacaoglu, 2008; Nicoll & Harrison, 2003) - Tutor in personal development, manager and teacher in a school and society context (Vila, Perez, & Morillas (2012) - Develop and coach experiential learning, and fostering reflection; take the role of promoter, facilitator, manager, coach, counsellor (Briggs, 2005; Lans et al. 2013) - Generate, transmit and share new knowledge with the aim of transforming society (Brennam et al. 2004; Buckley, 2012) - Serve multiple roles e.g. instructor, mentor, facilitator, and model (Foulger et al. 2012) - Information provider; facilitator as a mentor and learning facilitator (Harden & Crosby, 2000; Velasco et al. 2012) - Encourage and facilitate student learning of modern service and product provision concepts and practices (Kagaari & Munene, 2007)
Collaborating and networking	- Cooperating with colleagues (Karacaoglu, 2008; Tigelaar et al. 2004) - Working in teams; team learning and collaboration (Briggs, 2005; Kibwika, 2006; Lans et al. 2013) - Upgrading of knowledge in a discipline via adequate sabbatical arrangements, visiting professorships and academic networking facilities; active involvement in higher education teaching networks (Bakah, 2011) - Enhancing networking and social engagement, both with the economic sector and with the community at large (Meek et al. 2009) - Create collaborative learning environments and team learning (Lans et al. 2013; Tafel-Vila et al. 2012)
Higher education designing & developing	- Knowledge expert; contributing to curriculum construction; teacher as a crucial factor in curriculum innovation (Casares et al. 2011; Pilot & Kaseen, 2008; Tigelaar et al. 2004) - Interpreter and designer of learning programmes; scholar, researcher and lifelong learner; learning area/phase specialist (Harley et al. 2000) - Subject knowledge, pedagogy, and curriculum knowledge; understanding of the system of education and contribution to its development (Pantic et al. 2011) - Re-conceptualise learning and teaching in the context of increasing and widening participation (Nicoll & Harrison, 2003) - Pedagogical expert, designer and coach of learning (Vila et al. 2012) - Create authentic learning environments (Nab & Lans, 2012) - Integrate innovation competence in university curriculum so that graduates are better prepared for the work place (Penalver et al. 2012) - Curriculum and course planner; student assessor; resource material creator, and study guide producer; and curriculum evaluator (Harden & Crosby, 2000) - Manager/administrator of learning process (Briggs, 2005; McMillan, 2007)
Entrepreneurship	- Leader, administrator and manager (Harley et al. 2000) - Adaptation of knowledge to the new demands of the labour market being faced by students (Abaho 2013b, 2012; Lans et al. 2013) - Giving consultancy to and directing the students from what they learned to induction (Karacaoglu, 2008) - Work in projects as experts and as mentors (Laine et al. 2008) - Have entrepreneurial knowledge, career adaptability, and occupational self-efficay (Van Dam et al. 2010) - Foster students' self-efficacy; giving students autonomy and self-regulation; involving students in co-creation of entrepreneurship education; act in an entrepreneurial way as a role model (Nab & Lans, 2012) - Prepare students to deal with the changing environment so that they can compete to get or keep a job, to reinvent themselves at work, to be able to make the leap to other countries or to create their own job or company (Penalver et al. 2012) - Role model on-the-job and in more formal teaching settings (Harden & Crosby, 2000)

Table 2.2, shows the results from the conceptual analysis performed by the two coders involved this study. From Table 2.2, it can also be seen that several authors have advanced invaluable insights regarding the competencies teachers in higher education require for innovation. After following steps for conducting conceptual analysis (i.e. deciding the level of analysis, deciding how many concepts to code for, deciding whether to code for existence or frequency of a concept, deciding on how to distinguish concepts, developing rules for coding the texts, deciding what to do with "irrelevant" information, coding the texts, analysing coded text) (see e.g. Carley, 1992), the first and second author synthesised the data in Table 2.2, so as to come up with a draft of the higher education teacher innovation competence profile (Table 2.3).

Table 2.3: Synthesis of Available Literature Regarding Innovation Competencies Higher Education Teacher Require (n = 28)

Competence domains and their definitions	Competencies
1. Innovating - teaching staff's possession of innovation mind-set and behaviours and the ability to put these in practice to improve service or product provision	• Desire and concern to proactively take actions to improve one's knowledge and innovation skills. • Ability to come up with new things in area of speciality.
2. Knowledge society facilitating - teaching staff's ability to: create and disseminate knowledge and skills needed by the students and society; and to act as information consultant in an area of speciality and general life and societal issues	• Ability and willingness to work with others without prejudice in creating and disseminating knowledge needed by students to be relevant and productive at work and society in general. • Ability and willingness to cater for students' individual differences during the instructional process. • Ability and willingness to authentically demonstrate to the students the effect of a globalised knowledge society.
3. Collaborating and networking - teaching staff's ability to work well with and through teams, partnerships and networks to improve service or product provision	• Ability and willingness to build and or maintain ethical relationships or networks at the place of work. • Ability and willingness to work co-operatively within diverse teams at the place of work. • Ability and willingness to partner with internal and external education stakeholders to improve service or product provision
4. Higher education designing and developing - teaching staff's ability to envisage the needed present and future knowledge and skills students require in the global knowledge and innovation economy. As such, structure study programmes that are responsive to the labour market/society needs and demands.	• Ability and commitment to structure learning experiences that equip students with the knowledge and skills to live sustainably in the global economy. • Ability and commitment to authentically structure content that equips students with the knowledge and skills to be productive and innovative at the place of work and society as a whole. • Ability and commitment to conduct research in area of speciality. • Ability and commitment to design activating educational materials.
5. Entrepreneurship - teaching staff's possession of entrepreneurial mind-set and behaviour and put these in practice through undertaking commercial and/or non-commercial ventures.	• Ability and commitment to do and/or assist others be self-driven and open-minded towards exploring business opportunities in area of specialised knowledge. • Ability and commitment to do and/or assist others do things better as well as searching for new ideas in product or service provision.

Cross-sectional survey results

The survey questionnaire aimed at establishing the degree of importance of the university teaching staff innovation competence domains and competencies as perceived by the university SAS, students and the teaching staff themselves. The questionnaire also had one open-ended question which aimed at getting the respondents' opinions regarding additional

items that could be included on the higher education teacher competence profile draft as developed from the literature. Unfortunately, the non-response rate (93.4%) was extremely high, moreover, the small number of the respondents that responded to the open- ended question, were more or less echoing the competencies already indicated on the questionnaire though in different set of words or phrases. As such, no new items were derived from the open-ended question on the survey questionnaire.

Background Information

In terms of gender distribution of the SAS, the majority (58.9%) were male; while (41.1%) were female. Meanwhile, majority (64.3%) of teaching staff were male, while (35.7%) were female. Majority (53.3%) of students were male, whilst (46.7%) were female. Overall, the gender distribution results for all the three categories of participants involved in the present study fairly reflect the proportion of male and female SAS, teaching staff, and students at Kyambogo University. The mean age of the participants was 36.93 (*SD* = 8.88) years. Meanwhile, in terms of SAS's and teaching staff's highest academic qualification, the majority (53.3%) held a master's degree, followed by bachelor's degree (34.7%), post graduate diploma (7%), and PhD (5%), respectively. This comparatively represents the true staff's academic qualifications situation at Kyambogo University. The SAS and teaching staff's length of university service mean was 8.54 (*SD* = 3.02) years. Thus, it is reasonable to infer that most of the SAS and teaching staff involved in the study had sufficient experience and knowledge to give a fair picture regarding the importance of competencies university teaching staff need for innovation. However, it is important to be conscious in embracing this assumption because when one works for quite some years at the same place, one may have limited knowledge about the developments that are happening in different or similar organisations.

In this study, the majority (35.7%) of the teaching staff belonged to the arts and social sciences, followed by management and entrepreneurship (24.6%), science (15.9%), vocational studies (11.9%), and technology (11.9%), respectively. This fairly depicts a realistic distribution of teaching staff deployment at Kyambogo University. Meanwhile, majority (44%) of the SAS worked for the Academic Registrar's department, followed by University Secretary's department (27.8%), Student Welfare department (16.8%), and Finance Department (11.4%), respectively. This fairly represents the staffing distribution of university SAS and teaching staff situation at Kyambogo University. The IBM SPSS Statistics 20 Computer Programmes was used to analyse the quantitative data from the cross-sectional

survey questionnaire. The Descriptive statistics, ANOVA and Post Hoc Tukey Test results (Table 2.4 and Table 2.5) showed that there are significant differences in the perception of how the SAS, teachers and students perceive the importance of competencies university teaching staff need for innovation. For instance, in Table 2.4, it can be seen that the SAS were more positive whilst the students were more negative in regard to the importance of the innovation competence domains and competencies deemed as necessary for university teaching staff to act proficiently in the field of innovation.

Table 2.4: Means and Standard Deviations Regarding the Importance of Higher Education Teacher Innovation Competence by Competence Domain and Number of Respondents by Respondent Category (N = number of respondents; M = Mean; SD = Standard Deviation; Range of importance scale: 1 = not important; 5 = extremely important)

Competence domains	**Respondents**	**N**	**M**	**SD**
Innovating	Students	45	3.55	.58
	Teaching staff	126	3.66	.89
	SAS	90	3.92	.48
	Total	261	3.72	.73
Knowledge society facilitating	Students	45	3.57	.49
	Teaching staff	126	3.59	.79
	SAS	90	4.03	.50
	Total	261	3.74	.69
Collaborating and networking	Students	45	3.27	.40
	Teaching staff	126	3.57	.84
	SAS	90	3.87	.53
	Total	261	3.62	.71
Higher education designing and developing	Students	45	3.24	.50
	Teaching staff	126	3.29	.60
	SAS	90	3.76	.56
	Total	261	3.44	.61
Entrepreneurship	Students	45	3.43	.56
	Teaching staff	126	3.02	.56
	SAS	90	3.61	.59
	Total	261	3.30	.63

Table 2.5: Mean Differences of Perceptions between Respondent Groups and Significance Levels of these Mean Differences regarding the Degree of Importance of Higher Education Teacher Innovation Competence by Competence Domain and Respondent Category

Competence domain	(I) Respondents category	(J) Respondents category	Mean Difference (I-J)	Std. Error	Sig.	F	Eta Squared
Innovating	Students	Teaching staff	-.10	.12	.671	5.01*	.03
		SAS	-.36*	.13	.016		
	Teaching staff	Students	.10	.12	.671		
		SAS	-.25*	.10	.027		
	SAS	Students	.36*	.13	.016		
		Teaching staff	.25*	.10	.027		
Knowledge society facilitating	Students	Teaching staff	-.01	.11	.991	13.50*	.09
		SAS	-.45*	.12	.001		
	Teaching staff	Students	.01	.11	.991		
		SAS	.44*	.09	.000		
	SAS	Students	-.45*	.12	.001		
		Teaching staff	-.44*	.09	.000		
Collaborating and networking	Students	Teaching staff	-.30*	.11	.033	12.18*	.08
		SAS	-.60*	.12	.000		
	Teaching staff	Students	.30*	.11	.033		
		SAS	-.30*	.09	.005		
	SAS	Students	.60*	.12	.000		
		Teaching staff	.30*	.09	.006		
Higher education designing and developing	Students	Teaching staff	-.04	.10	.876	20.57*	.13
		SAS	.51*	.10	.000		
	Teaching staff	Students	.04	.10	876		
		SAS	-.46*	.07	.000		
	SAS	Students	-.51*	.10	.000		
		Teaching staff	-.46*	.07	.000		
Entrepreneurship	Students	Teaching staff	.40*	.09	.000	29.08*	.18
		SAS	-.18	.10	.189		
	Teaching staff	Students	-.40*	.09	.000		
		SAS	.58*	.07	.000		
	SAS	Students	.18	.10	.189		
		Teaching staff	-.58*	.07	.000		

*The mean difference is significant at the 0.05 level

2.6 Discussion

The aim of this study was to develop an innovation competence profile for teaching staff in Ugandan public universities taking Kyambogo University as a case. The results of the present study showed that out of the generic literature regarding higher education teacher competencies, there are five competence domains and fourteen competencies which are perceived as being important for the university teaching staff to act effectively in the field of innovation.

Innovating

The study findings have disclosed that university teaching staff's possession of an innovation mind-set and behaviour and the ability to put these in practice is critical if they want to significantly contribute to innovation. Authors such as Marotta, Mark, Blom, & Thorn (2007) indeed assert that organisations whose employees have a higher level of education are more likely to come up with innovations at the place of work and society in general. As such, this presents a double challenge to university teaching staff considering that they are expected to foster innovation in their areas of speciality as well as pass on innovation knowledge and

skills to students. This is based on the realisation that, innovation is crucial for surviving and/or thriving of individuals, organisations, and nations in the ever changing global knowledge economy (Hodgson 2012; Kropff, 2014; Laine, Van der Sijde, Lahdeniemi & Tarkkanen, 2008; Meek, Teichler & Kearney, 2009).

Moreover, universities, especially in Africa, are under increasing pressure to be effective producers of new knowledge, technology, quality graduates, and also act as catalysts of innovation aimed at improving people's quality of life (Kibwika, 2006; Laine et al. 2008). This is buttressed by Tornatzky & Rideout's (2014) assertion that universities can and should contribute to innovation and technology-based economic development. In this light, this study posits that the capability to innovate as well as assist others innovate should be considered as one of the core competence of university teaching staff in developing countries like Uganda. However, there is need to first establish the necessary conditions that can spur university teaching staff to act competently in the field of innovation. One of the things that could be considered is making university teaching staff management and development practices innovation-oriented. Apparently, for instance in Uganda, there is lack of knowledge regarding the sort of innovation-oriented teaching staff management and development practices that can be adopted and how they can be implemented. As such, there is need for empirical research to be conducted in this regard.

Knowledge Society Facilitating

The results of the present study also showed that knowledge society facilitating is also a key competence that should be possessed by the university teaching staff, if they want to act proficiently in the field of innovation and to equip students with innovation knowledge and skills. This is buttressed by the fact that we are living in a global knowledge society characterised by the creation, dissemination and utilisation of information and knowledge at a terrific speed so as to enhance economic and social development (Gesci, 2012). Castells (1996) contends that the knowledge society is the new mode of human existence, in which the production, recording, processing and retrieving information in organised networks plays the central role. Besides, in a world, more than ever before characterised by unprecedented challenges and problems such as climate change, economic crisis, political and religious conflicts, break out of epidemic diseases, and poverty, especially in African countries, the need for university teaching staff to have the ability to create and disseminate knowledge and skills aimed at improving the quality of people's lives cannot be overemphasised.

Authors such as Deiaco, Hughes, Mckelvey (2012) and (Kroppf, 2014) avow that universities should be pivotal in the global knowledge economy through providing both

public and private goods in terms of education, research, and innovation. For instance, Altbach (2007) states that universities in developing countries such as Uganda are at the top of the academic hierarchy and ought to play a central role in building a modern knowledge-based economy. As such, universities like Kyambogo should do all that it takes, to get adequate teaching staff with the ability to create and disseminate knowledge and skills, needed by learners to be relevant and productive in the global knowledge and innovation economy. This is critical if Ugandan universities, for example, want to remain relevant in creating and disseminating knowledge and skills needed to advance economic growth and human welfare in the country (Ramkissoon, 2008; Tornatzky & Rideout, 2014).

For instance, top universities in the world such as. Harvard and recently Wageningen in an attempt to meet the knowledge and learning needs of the masses, they are giving 'Massive Online Open Courses' (MOOCs). This innovation in the university sector enables a large number of people to acquire the essential knowledge and skills needed to thrive in the 21st century by following a learning pathway, independent of time of day or distance (De Vos, 2015). In this knowledge and innovation era, it is critical that teachers think and do more to create and disseminate knowledge and skills that people in the wider society need to improve their quality of life than only concentrating on the instructional process in the classroom.

Collaborating and Networking

The results in this study further divulged that university teaching staff's collaborating and networking competence is another important competence they should possess if they want to act competently in the field of innovation and to equip students with innovation knowledge and skills. This resonates with Fritsch & Schwirten (1999) who assert that universities are seen as important sources of inputs for private sector innovation activities. In the same line of thinking, authors such as Deiaco et al. (2012) advance that one vital requirement for realising knowledge economy, higher education, research and innovation systems need to be more tightly linked to economic and social development. This, inevitably, calls for universities to have teaching staff who have the capability to work well with and through partnerships and networks with colleagues, public and private sectors to generate and disseminate relevant knowledge and skills to address present and future socio-economic needs and challenges facing humanity.

In agreement with the aforementioned, Lester (2005) affirms that universities need a stronger awareness of the pathways along which local industries are developing and the innovation processes that are associated with those pathways. Moreover, it is widely acknowledged that the exchange of information or services among individuals, groups, or

institutions, specifically: the cultivation of productive relationships for education, research, innovation, employment or business is a good thing that should be encouraged (Katz & Martin,1995). The findings of this study concur with Buckley (2012), Harley, Barasa, Bertram, Mattson & Pillay (2000), Kibwika (2006) and Van Dam et al. (2009) who all uphold that teaching staff should possess good collaborating and networking knowledge and skills.

Besides, in this knowledge and information age, the role collaboration and networking play for individuals, organisations, and nations to survive and/or gain competitive advantage, cannot be overemphasised (MacCormack, Thedore, Brooks, & Kalaher, 2007). This study espouses the proposition that it is through collaboration and networking with various actors in the education, community, industry, government, and business sectors that teaching staff can become and remain relevant in the ever changing global knowledge economy, which in turn can enable university teaching staff prepare relevant and productive students for the ever changing labour market (Foulger, Williams &Wetzel, 2008; Sa, 2011; Tafel-Vila, Loogma & Lassur, 2012).

The results of this study provoke us to ask whether there is significant collaboration and networking between the university teaching staff and e.g. the local communities, industry, government, and business sectors on matters relating to socio-economic development and improvement of people's quality of life in most African countries like Uganda? If no, what are the factors that are responsible for this situation and how can they be mitigated? These important questions need to be empirically investigated because collaboration and networking in the ever changing global knowledge-based economy is a key competence that can enable university teaching staff significantly contribute to innovation.

Higher Education Designing and Developing

The study results also revealed that university teaching staff need to possess higher education designing and developing competence, if they want to make innovation happen in their institutions. Lester (2005) upholds that universities ought to align their educational programmes, research and innovation activities with what is actually happening in the national and local economy. Besides, education, especially at the university level, is widely acknowledged as a primary agent of transformation towards sustainable development, increasing people's capacities to transform their visions for society into reality (Brandon & Lombardi, 2009). This, inevitably, requires universities to have teaching staff with the ability to envisage the needed knowledge and skills and structure labour market-driven study programmes that meet the expectations of students, employers and other stakeholders (Pilot & Kaseen, 2008).

The aforementioned is deemed as being fundamental in curbing the high unemployment rate of graduates in most African countries, Uganda being no exception, mainly brought about by the mismatch between knowledge and skills the graduates possess and what the labour market actually needs (British Council, 2014; IBM, 2007; Rangel & Ivanova, 2014). The need to have university teaching staff with the competence to design, develop, and implement relevant educational programmes cannot be overstated. This is owed to the fact that universities are under increasing pressure to make sure that the graduates they prepare have the competencies considered appropriate to the needs of the global knowledge and innovation economy (De Weert, 2011). The findings of this study concur with the work of several authors such as Harley et al. (2000), Liakopoulou (2011), Martin et al. (2000), Meek et al. (2009), and Tigelaar et al. (2004), who all accentuate the need for teachers, especially in higher education institutions, to possess the ability to design, develop, and implement educational programmes that meet the expectations of students and employers.

Moreover, as world economies go through unprecedented changes, education of previous decades cannot adequately prepare people to meet the current and future socio-economic conditions (Kibwika, 2006). As such, the study results point to the need to consider having mandatory initial university teacher education and training and continuous professional development programmes for people that teach in Ugandan universities, e.g. Kyambogo. This is extremely important because persons teaching in universities can be assisted to acquire knowledge of how to effectively design, develop and implement labour market demand driven university education and training programmes. Apparently, there is lack of knowledge regarding the perception, views, opinions and attitudes of teaching staff regarding the need to introduce mandatory initial university teacher education and training and continuous professional development programmes in Uganda. Similarly, there is also lack of knowledge regarding how mandatory initial university teacher education and training and continuous professional development programmes can be organised and managed in Uganda. The aforementioned issues need to be addressed if Ugandan universities want to have adequate staff with the ability to design, develop and implement competitive university educational programmes.

Entrepreneurship

The results of this study also revealed that university teaching staff need to possess entrepreneurship competence, if they want to significantly contribute in the field of innovation. Authors such as Abaho (2013a) and Van Dam, Schipper & Runhaar (2009), support the view that teaching staff in higher education should possess entrepreneurship

competence to do and/or assist others do things better as well as searching for new ideas in product or service provision in their areas of speciality. We uphold the consideration that university teaching staff in their area of specialisation should have the ability design, develop, and implement educational programmes that equip learners with knowledge and skills to be more of job creators than job seekers (Trust Africa Policy Brief, 2010). Moreover, due to changes in the nature and demand for work and products, universities are required to prepare individuals who can create their own jobs and/or help their organisations come up with new products and services.

In view of the above observation, teaching staff should walk the talk by exhibiting the required entrepreneurial behaviour, for instance, opportunity recognition, taking initiative, and risk management. Thus, they act as models to their students in the entrepreneurial field whether for commercial or non-commercial purposes (Abaho, 2013b; Kibwika, 2006; Nab & Lans, 2012; Lans, Oganisjana, Taks, & Popov, 2013; Van Dam et al. 2009). The results of this study point to the need to consider making entrepreneurship education a core course in university education in Uganda, especially at the undergraduate level. This can go a long way in making sure that the high unemployment rate of graduates of Ugandan universities is tremendously reduced. However, before this is done, it implies that pragmatic steps should be taken to ensure that university teaching staff are equipped with entrepreneurial knowledge and skills in their areas of speciality. The need for teaching staff in Uganda universities to have entrepreneurship knowledge and skills and to impart it to the students cannot be overstressed. This is buttressed by the supposition that jobs in the public sector are so limited, hitherto, the country has one of the fastest growing populations. This therefore implies that a paradigm shift is needed in Uganda's higher education and training, with a view to equip the graduates with the capability to create their own employment.

2.7 Limitations and Suggestions for Future Research

The study was mainly exploratory involving only Kyambogo University in Uganda. After exploring the competence domains and competencies, university teaching staff require for innovation, further research is needed to establish the extent to which the current population of university teaching staff possess innovation competence in Uganda. It is also worth noting that in this study nothing changed when the first university teaching staff innovation competence profile based on literature is compared to the validated profile through a questionnaire survey. This seems to suggest that the respondents have unquestionable ability to determine the extent to which the existing work principles and

practices, as suggested by others, can influence their job performance rather than coming up with their own ideas. However, as the results indicate, the respondents seem to be aware of the impact of developments such as globalisation, advancement in science and technology climate change, among others, on our daily life. As such, they ranked knowledge society facilitating and innovating as the top competence domains university teaching staff should possess. Besides, apart from replicating the study so as to confirm the findings in developing countries similar to Uganda, it would be interesting to establish the competencies university teaching staff require for innovation in other settings for comparative purposes.

2.8 Conclusion

The present study has demonstrated that according to the literature the following innovation competence domains are important for university teachers: innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship. Furthermore, the study showed that these competencies are also assessed as being relevant for teaching staff at Kyambogo University.

Next, it is important to empirically establish the extent to which the current teaching staff possess innovation competence. Consequently, this will establish a point of departure regarding what should and can be done to ensure that teaching staff can effectively contribute to innovation of higher education. Besides, any university education reform agenda should first address the competence needs of the teaching staff if it is to be a success. That said, the theoretical contribution of the present study is that it provides insights in innovation competence development of teachers in the higher education sector and other similar sectors in Uganda. This is based on the realisation that more often than not, job profiles in the country are merely transplanted basing on literature studies and not contextualised. Consequently, capacity development and performance improvement is hardly realised in various institutions.

Chapter 3

The Current Status of Teaching Staff Innovation Competence at Kyambogo University

This chapter has been accepted as an article to be published in the Journal of Higher Education Policy and Management as: Kasule, G. W., Wesselink, R., Noroozi, O., & Mulder, M. (2014). The Current Status of Teaching Staff Innovation Competence in Ugandan Universities: Perceptions of Managers, Teachers and Students.

Abstract

To what extent do university teaching staff possess competencies needed for innovation? This study explored this query by collecting data from Senior Administrative Staff (SAS) (n=90), teachers (n=126), and students (n=179) through a questionnaire administered at Kyambogo University. The results show that teaching staff performance on the role of: innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship, could not be considered as satisfactory. It was also established that there are significant differences in the perception of the aforesaid among the respondent categories. The findings suggest that urgent interventions need to be undertaken to develop university teaching staff innovation competence in Ugandan universities like Kyambogo. This study also highlights the centrality of using various internal key stakeholders in the educational system such as students and administrative staff if effective teacher performance evaluation is to be attained in universities.

3.1 Introduction

'We cannot become what we need to be, by remaining what we are.' Max De Pree

Innovation is key to survive and/or thrive in the global economy (Kibwika, 2006). It is presumed that developing countries through quality university education could transform themselves from peasant to knowledge and innovation economies and societies (World Bank, 2003). Moreover, it is predicted that across the globe in the near future, over 50 per cent of employment will consist of jobs that require higher education (Mulder, 2010). As such, universities, regardless of context, are expected to prepare innovative individuals with the capability to cope with the 21st century demands (Kropff, 2014). However, most universities in Uganda are accused of passing out graduates who are irrelevant for the country's labour market needs, leave alone, the graduates being ill prepared for the ever changing and competitive knowledge economy (Kasule et al. 2014). This is buttressed by Amme & Agaba (2014) and Mamdani (2007), who avow that universities in Uganda duplicate courses, all in the name of attracting more students, which in turn means more revenue for the university, but without considering the market demand of the graduates and the socio-economic development needs of the country. Thus, concerted effort is needed from education policy makers, university Senior Administrative Staff (SAS) and academic staff, and technocrats in the higher education sector to ensure that universities provide labour market demand-driven programmes. Leave alone ensuring that students are prepared in such a way that they can be productive at their work places and society as whole (Kasule et al. 2014).

In an effort to contribute towards addressing the gap of lacking university teaching staff with innovation competence in Ugandan universities, Kasule et al. (2014) advance five innovation competence domains and fourteen underlying competencies teaching staff in universities need for innovation. As already mentioned in Chapter 2, these domains include: innovating; knowledge society facilitating; collaboration and networking; higher education designing and developing; and entrepreneurship. Besides, universities, regardless of context, are expected to significantly contribute to technological and social innovations (Kibwika, 2006; kropff, 2014). However, there is no empirical study regarding the extent to which the current population of university teaching staff possess innovation competence. This study, therefore, set out to provide insight into the current state of innovation competence of teaching staff in Ugandan universities taking Kyambogo as a case. The next section presents the theoretical framework that guided this study. This is followed by the methods and results sections in which the study outcomes are presented. The discussion section comments on

these results. Finally, limitations of the study and suggestions for future research, and the study conclusion, are presented.

3.2 Theoretical Framework

The majority of the studies on teacher performance that have been conducted focus on effectiveness of the teaching and learning process, and not on aspects such as the teacher's ability to act competently in the field of innovation. Accordingly, this study sets out to assess the innovation competence of university teaching staff. Assessment of teachers has a history that dates as far back as the 1920s (Alderman, Towers & Bannah, 2012; Marsh, 1987; Ronald, 2013; Wachtel, 1998). Student evaluations of teaching are regularly conducted in universities across the globe and their results are used for both formative practice, to guide teaching practice, and summative to underpin staff recruitment, management and development policies and practices (Alderman et al. 2012; Catano & Harvey 2011; Palmer, 2012; Villalta-Cerdas, 2014). However, several authors such as: Bedggood & Donovan (2012); Drew & Klopper (2014) and Hoon, Lin & Ling (2013) acknowledge that the use of student evaluations of teaching performance is an important, but a controversial tool in the improvement of teaching quality in universities. Student evaluations are considered essential because students as clients of the university, have a right to express their degree of satisfaction towards the instructional process (Alderman et al. 2012). Student feedback on the educational programme and the instructional process is increasingly being seen as a means to benefit teacher professional development (Blair & Noel, 2014). However, opponents of student evaluations argues that students have different levels of ability and commitment, and different experience and lack of pedagogical knowledge, among other things, thus, cannot make a well-versed judgement of teaching performance (McMartin & Rich, 1997).

The present study espouses the view that students' opinions matter in any endeavour aimed at improving the quality of education. Thus, they should be considered in the assessment of teacher performance. Besides, students are the primary beneficiaries of any teaching and learning process endeavour. Furthermore, it is advanced that student evaluations provide direct feedback to teachers so that they can refine their courses and teaching practices to provide students with better learning experiences (Fenwick & Parsons, 2000). Moreover, assessment of the quality of higher education processes and products is more than ever before an important focus of attention for various higher education stakeholders (Hendry & Dean, 2002; Van Vught & Westerheijden, 1994). The judgemental model of assessment posited by Hager & Butler (1996) and supplemented by models of teacher effectiveness research (Goal

and tasks model; Resource utilisation model; Working process model; School constituencies satisfaction model; Accountability model) as presented by Kyriakides, Demetriou & Charalambous (2006), provided useful insights in conducting this study. The judgemental model of assessment is highly acknowledged within the competence movement for vocational qualifications and in the key skills agenda in higher education (Yorke, 2005). As such, the model is considered to be appropriate for the assessment of workplace performance (Martin, 1997). Meanwhile, models of teacher effectiveness research are seen as a source for generating a set of criteria for teacher evaluation that captures the multiple teacher roles in changing the educational environment (Kyriakides et al. 2006).

In teacher performance evaluation, the use of multiple data sources is vital. As such, models of teacher effectiveness research were used to guide this study as they also recommend consideration of various sources for collecting relevant data during the teacher performance evaluation process (Ellett, Wren, Callendar, Loup & Liu, 1996). Hence, the decision to involve university students, teaching staff, and SAS. Ronald (2013) espouses the use of multiple sources to provide a solid foundation in the assessment process from which to infer teaching staff's job performance effectiveness. This makes it possible to have fair and equitable decisions about teaching staff contract renewal, merit pay, promotion and tenure. Due to the heavy criticism levied against the sole use of student evaluations, we concur with authors like Hager & Butler (1996); Kyriakides et al. (2006); and Ronald (2013) that use of multiple data sources is preferable.

Moreover, most studies that have attempted to examine teacher performance, have mainly relied on student evaluation forms and not multiple data sources, for instance, involving university SAS (Alderman et al. 2012; Catano & Harvey, 2011; Palmer, 2012). Hitherto, university SAS are part of the policy and decision makers charged with the responsibility of overseeing the implementation of the present and future university core tasks. As such, this study contributes to the existing scientific literature on effective teacher job performance assessment within a prescribed contemporary job profile. The present study mainly relies on the strength of incorporating the internal key stakeholders in the university in teacher performance evaluation, particularly on the aspect of innovation competence. The results herein form a basis for interventions to develop and enhance innovation competence of teaching staff in Ugandan universities and other similar countries having a desire to improve the quality of their university education.

The ensuing research questions guided the study: *1. What is the current status of teaching staff innovation competence at Kyambogo University, and* 2. *to what extent does the evaluation of university teaching staff innovation competence, per group of internal Kyambogo University stakeholders, differ from each other?*

3.3 Methods

3.3.1 Design of the Study

As in chapter 2, the study presented in this chapter employed an exploratory research design. As said, this design is considered useful in directing subsequent research approaches as well as gaining greater understanding of a situation where nothing or little is known (Kumar, 2011). Thus, the exploratory study design was considered appropriate for this study because, currently, little is known about the status quo of teaching staff innovation competence at Kyambogo University in particular, and other Ugandan universities as well.

3.3.2 Context and Participants

The study was conducted at Kyambogo University. The university's vision is to be a centre of professional and academic excellence and its mission is to promote and advance knowledge and development of skills in Science, Technology and Education and such other fields having regards for quality, equity, progress and transformation of society. Kyambogo University was selected because it is charged with the responsibility of overseeing teacher education, training and development programmes in Uganda. This explicitly or implicitly implies that Kyambogo University should have competent teaching staff who can act as models to other universities and tertiary institutions in Uganda. Since Kyambogo's mission and core activities rotate around advancing and promoting knowledge and development of skills in science, technology and education, and in such other fields having regard for quality, equity, progress and transformation of society, it was presumed that the views of SAS, teaching staff, and students at Kyambogo University would give a clear picture regarding the extent to which the current teaching staff possess competencies needed for innovation.

This study involved the same sample of SAS as in Chapter 2 (Table 2.1) (n=130). This was based on the presupposition that since they were involved in the study that validated the higher education teacher innovation competence profile, and by the virtue of their job duties and working experience, they possess key staff performance information considered useful for the present study (Kumar, 2011). Similarly, the study used the same sample of teaching staff as in Chapter 2 (Table 2.1) (n=200). The only sample that changed in this study was the

student category. The study used stratified purposeful sampling to select the SAS and teaching staff, while, simple random sampling was used to select the students as already indicated in Chapter 2.

The student category (n = 240) comprised of final year bachelor of education degree students only (entry qualification to join the two- year bachelor of education degree programme is possession of a diploma in education with at least three years of teaching experience). As such, it was believed that these students, basing on their academic and professional standing, can fairly determine whether their teachers are equipping them with the competencies they need in the knowledge and innovation explosion era. Moreover, students are the immediate beneficiaries of education, thus it is critical to seek their views regarding the quality of education that is being provided.

The teaching staff were chosen because it is their cardinal role to provide high quality teaching, research and community development. Therefore, the university teaching staff act as agents of socio-economic development, on top of preparing relevant and productive graduates for the various labour fields. It is, therefore, significant to find out how they rate themselves when it comes to determining the extent they think their performance is sufficient in the field of innovation as well as in equipping students with innovation knowledge and skills. The students involved in this study were selected basing on the students' list for the final year bachelor of education degree students provided by the Academic Registrar's Department.

3.3.3 Instrument

The SAS, teaching staff, and students responded to a 14 item close-ended questionnaire comprising the five innovation competence domains as advanced by Kasule et al. (2014), (see Table 2.3, in chapter 2) along a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The questionnaire aimed at finding out the extent to which university teaching staff possess competencies needed for innovation. Of the 570 questionnaires administered to the sample population, 395 questionnaires were returned and after screening for missing data, were considered usable. This represents a 69.3% response rate, which in social science research is acceptable since the study results can fairly be generalised to the sample population (Kumar, 2011).

3.3.4 Statistical Tests

The data were analysed using IBM SPSS Statistics 20 Computer Programme. Descriptive statistics were used to summarise and describe the participants' responses

regarding the extent to which they think teaching staff possess competencies needed for innovation (Table 3.1). Thereafter, an ANOVA test followed up by a Post Hoc Tukey Test was employed to find out whether the mean scores of the SAS, teachers and students are significantly different from one another or they are relatively the same. Perceptions regarding the extent teaching staff possess competencies needed for innovation at Kyambogo University, were defined as follow: < 1.4 is strong disagreement; between 1.5 and 2.4 is disagreement; between 2.5 and 3.4 is uncertainty; between 3.5 and 4.4 is agreement; and between 4.5 and 5.0 is strong agreement, regarding teaching staff possession of competencies they need for innovation.

3.4 Results

3.4.1 Teaching Staff Possession of Innovation Competence as Perceived by SAS, Students and the Teaching Staff at Kyambogo University

The distribution of the students and teaching staff was as follows: majority (33.8%) of belonged to arts and social sciences, this was followed by management and entrepreneurship (22%), science (15.8%), vocational studies (15%), and technology (13.4%), respectively. This portrays a realistic distribution of student enrolment and teaching staff deployment at Kyambogo University (National Council for Higher Education Report, 2012). The distribution of the SAS remained the same as already presented in Chapter 2 (Table 2.1). Regarding the extent university teaching staff possess competencies needed for innovation at Kyambogo university, results in Table 3.1, reveals that SAS are more negative than the students and teachers regarding the extent to which they perceive teaching staff as sufficiently possessing competencies they need for innovation. In general, it can be seen in Table 3.1 that scores on innovating domain are the lowest. However, it is also worth noting in Table 3.1 that the Standard deviations are high, this implicitly or explicitly indicates that all the respective participants of each respondent group do have different opinions regarding the extent to which they perceive teaching staff as sufficiently possessing competencies needed for innovation at Kyambogo University.

Table 3.1: Means and Standard Deviations Regarding the Extent to Which Teaching Staff Possesses Innovation Competence by Competence Domain and Number of Respondents by Respondent Category (N = number of respondents; M = Mean; SD = Standard Deviation; Range of importance scale: 1 = Strongly disagree; 5 = Strongly agree)

Competence Domains	Respondents	N	M	SD
Innovating	Students	179	3.19	1.21
	Teaching staff	126	2.96	1.20
	SAS	90	2.16	1.14
	Total	395	2.88	1.26
Knowledge society facilitating	Students	179	3.13	.85
	Teaching staff	126	3.01	1.20
	SAS	90	2.22	1.15
	Total	395	2.89	1.11
Teaching staff as a collaborator and networker	Students	179	3.17	.93
	Teaching staff	126	3.10	1.28
	SAS	90	2.31	1.41
	Total	395	2.95	1.22
Higher education designing and developing	Students	179	3.25	.91
	Teaching staff	126	3.01	1.32
	SAS	90	2.26	1.24
	Total	395	2.95	1.19
Entrepreneurship	Students	179	3.15	1.11
	Teaching staff	126	3.02	1.36
	SAS	90	2.25	1.28
	Total	395	2.91	1.28

3.4.2 Is There Difference in Perception of Teachers, SAS and Students regarding the Extent to which University Teaching Staff Possess Innovation Competence?

ANOVA and Post Hoc Tukey Test results (Table 3.2) showed that there were statistically significant differences among the three categories of respondents regarding the extent they think teaching staff sufficiently possess competencies needed for innovation at Kyambogo University. The results in Table 3.2 further indicates that the differences in means were small as depicted by effect size scores.

Table 3.2: Differences in Perception of Teachers, SAS and Students Regarding the Extent to which University Teaching Staff Possess Innovation Competence by Competence Domain and Respondents by Category

Dependent Variable	(I) Respondents category	(J) Respondents category	Mean Difference (I-J)	Std. Error	Sig.	F	Eta Squared
Innovating	Students	Teaching staff	.23	.13	.222	22.48*	.10
		SAS	1.02*	.15	.000		
	Teaching staff	Students	-.23	.13	.222		
		SAS	.79*	.16	.000		
	SAS	Students	-1.02*	.15	.000		
		Teaching staff	-.79*	.16	.000		
Knowledge society facilitating	Students	Teaching staff	.11	.12	.602	24.04*	.11
		SAS	.91*	.13	.000		
	Teaching staff	Students	-.11	.12	.602		
		SAS	.79*	.14	.000		
	SAS	Students	-.91*	.13	.000		
		Teaching staff	-.79*	.14	.000		
Collaborating and networking	Students	Teaching staff	.06	.13	.874	17.75*	.08
		SAS	.86*	.15	.000		
	Teaching staff	Students	-.06	.13	.874		
		SAS	.79*	.16	.000		
	SAS	Students	-.86*	.15	.000		
		Teaching staff	-.79*	.16	.000		
Higher education designing and developing	Students	Teaching staff	.23	.13	.175	22.77*	.10
		SAS	.98*	.14	.000		
	Teaching staff	Students	-.23	.13	175		
		SAS	.74*	.15	.000		
	SAS	Students	-.98*	.14	.000		
		Teaching staff	-.74*	.15	.000		
Entrepreneurship	Students	Teaching staff	.12	.14	.644	16.73*	.08
		SAS	.90*	.15	.000		
	Teaching staff	Students	-.12	.14	.644		
		SAS	.77*	.17	.000		
	SAS	Students	-.90*	.15	.000		
		Teaching staff	-.77*	.17	.000		

*The mean difference is significant at the 0.05 level

3.5 Discussion

The aim of this study was to establish the extent to which university teaching staff possess innovation competence and whether there are significant differences in the evaluation of teaching staff innovation competence by the teachers themselves, the SAS and the students at Kyambogo University. The results in this study reveal that teaching staff at Kyambogo University have a low rating when it comes to possessing competencies needed for innovation. This concur with Kibwika (2006), who argues that teaching staff in Ugandan universities must learn to make change if they are to prepare graduates with the capability to foster socio-economic development through innovation at the workplace. In this light, interventions are urgently needed to develop all the five innovation competence domains and competencies as advanced by Kasule et al. (2014).

We live in a world characterised by rapid change in every aspect of life. As such, teaching staff in universities ought to be pioneers as well as assist others to do different things

in different ways, rather than the same things in different ways in an attempt to address problems and challenges in the rapid changing knowledge economy (Dale, 2005; Kibwika, 2006; Wesselink, 2010). Besides, universities as traditional knowledge institutions are expected to be leading future service industries and need to effectively equip people with knowledge and innovation skills that can enable them not to merely survive but also to thrive in the global knowledge economy (Olssen & Peters, 2005). Moreover, the global knowledge economy has placed and/or is still placing new demands on people in the world of work and life in general (Wesselink, 2010).

The findings of this study support Kasozi (2003) who asserts that it is important for Ugandan universities to have vibrant industry and community linkage and collaboration programmes if they want to play a catalyst role in fostering socio-economic development in the country. This concurs with Bisaso (2010) who posits that little or no collaboration and networking among the academics in Ugandan universities is one of the stumbling blocks hampering sound reforms in the Ugandan higher education sector, among other things. The present study findings also coincide with Olssen and Peters (2005) who advance that higher education is seen as a key driver in the knowledge economy and as a consequence universities are required to develop links with industry and business in a series of new venture partnerships.

Schleicher (2011) contends that high performing education systems are characterised as knowledge rich in which collaborative partnerships and leadership are essential to formulating educational policy. Thus, teaching staff in universities ought to have sufficient collaboration and network skills if their institutions are to benefit from national and international partnerships, linkages and collaboration programmes. The study findings are in agreement with most externally initiated studies of education in Africa undertaken during the early 1990s and up to now, that African education faces severe challenges (Samoff, 2003; Sawyerr, 2004a; Trust Africa Policy Brief, 2010; Van Deuren, 2013), for example, irrelevant curriculum, shortage of competent staff, poor management and inefficient administration, dilapidated infrastructure, and very high teacher/student ratio.

Consequently, the higher education sector's ability to meet the national development needs of most of African countries such as Uganda through research, innovation and knowledge production is jeopardised (Collins & Rhoads, 2008; Eisemon & Salmi, 1993; Kibwika, 2006). Concern for how learning takes place in higher learning institutes and how instruction and assessment affect the quality of learning is desirable, because students need to acquire knowledge and competencies that can be transferable in the workplace (Mikre, 2010;

Mulder, 2014; Wesselink, 2010). This resonates with the assertion that university teaching staff should pass on entrepreneurship knowledge and skills to students so that they are more of job creators than job seekers (Abaho, 2013a; Alberta Education, 2011). Therefore, Ugandan universities should endeavour to have adequate teaching staff with higher education course design and development competence. Moreover, Altbach and Teichler (2001) and Bloom, Canning, and Chan. (2006) affirm that high quality higher education is a leading instrument for promoting socio-economic development. Thus, universities in Uganda must invest a considerable amount of time and funds in attempts to improve their core activities of teaching and learning, research, innovation and community service (Kasozi, 2003; Kibwika, 2006; Mamdani, 2007).

Research on educational and instructional effectiveness shows that teacher behaviours that have been found to relate to student outcomes include, clarity, feedback, classroom management, and communication of teacher expectations (Den Brok, Brekelmans & Wubbels, 2004). This study, however, posits that these teacher behaviours are limited to instructional process within the educational institution. Hitherto, the roles in a knowledge and innovation explosion era have changed. For instance, diversity in composition the student population, emergence of new student learning styles, ever changing societal needs, social and technological innovations etc. All suggest that competencies for effective teacher performance have to be redefined. Accordingly, the results of this study have showed that innovation competence in a contemporary education system is paramount for the realisation of better student learning achievement and outcomes. This study has shown what has to change and where we can start instead of just calling for reforms in the higher education in African countries like Uganda without giving viable steps.

3.6 Limitations and Suggestions for Future Research

The present study was an exploratory study involving relatively a small sample of SAS, students, and teaching staff at Kyambogo University. Kyambogo University being a public university, the study findings herein may not be generalisable to private universities because teaching staff, SAS, and students in such universities might not be exactly the same in terms of qualification, work experience, and work environment. Furthermore, the study only used quantitative data collection and analysis methodology. We suggest that further research should be conducted covering both public and private universities as well as use mixed research methods to test the extent to which the results can be generalised. In the event

that teaching staff at Kyambogo University do not sufficiently possess innovation competence as presented in this study, there is need to empirically show the kind of professional development activities that could be used to mitigate the problem. It would also be interesting to replicate the study including SAS, teachers and students so as to compare the results herein in a different context.

3.7 Conclusion

In conclusion, the present study mainly set out to establish the extent university teaching staff possess competencies needed for innovation, as perceived by the SAS, teachers, and students at Kyambogo University. It also aimed at establishing the extent to which the evaluation results per group differed from each other. The results herein show that teaching staff performance at Kyambogo University was not considered sufficient on the five innovation competence domains (innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship) as advanced by Kasule et al. 2014. The study findings also show that the teaching staff and students have more or less the same perception regarding the extent to which university teaching staff possess competencies needed for innovation at Kyambogo University, while, the SAS have a different and a less positive perception. Hence, it is fair to infer that this is unhealthy for Kyambogo University in its quest to provide high quality university education and other services that could act as catalysts in fostering national development and the improvement of people's quality of life in Uganda. Moreover, without the education system having innovation-oriented teachers, particularly at university level, national development and improvement of people's quality of life can hardly be realised.

Chapter 4

Professional Development Activities to Enhance Teaching Staff Innovation Competence

Abstract

More than ever before, university teaching staff roles are becoming more complex. As such, this demands that the teaching staff are assisted to develop the capability to cope with this trend. However, little scientific literature is available regarding the specific professional activities that teachers need for innovation. The current university teacher professional development research mainly focuses on the teaching role, for instance, to impart knowledge to their students via lectures and similar face-to-face activities. Based on the previous chapters on the importance of innovation competence of teachers in higher education and their actual innovation competence levels, this study explored professional development activities that are perceived as being important to enhance teaching staff capability to contribute to innovation. It also investigated teaching staff participation in professional development activities and the relationship between participation and perception of the degree of importance of professional development activities that are deemed important to enhance university teaching staff innovation competence. Data were collected through semi-structured interviews with teaching staff leaders (n = 20), and a questionnaire administered to relevant respondent groups distinguished in the previous chapters: university Senior Administrative Staff (SAS), (n = 90) and teaching staff (n = 126) at Kyambogo University. The results showed that accredited education and training; conferences, workshops, seminars, symposia, and brainstorming sessions; individual and/or group action research; coaching and mentoring programmes; membership of professional groups and networks; and simulation games, all oriented on innovation, are the important professional development activities that can be used to enhance teaching staff capability to contribute to innovation. The study also established that teaching staff rarely participated in professional development activities particularly for innovation. Furthermore, there was no correlation between participation and perception of the importance of most professional development activities. The study pointed at the necessity to establish human resource management conditions which address teaching staff innovation competence needs.

4.1 Introduction

'Ongoing development or learning is part of all our working lives, whether or not we are formally required to evidence it.' Helen King

It is widely acknowledged that there is a significant correlation between the effective education people get at the various educational levels and socio-economic development (Mansilla & Jackson, 2011). However, most African countries like Uganda, face the challenge of lacking relevant university education that equips the students with contemporary knowledge and skills needed to thrive in the global knowledge economy (Mayer, Wilde, Dinku, Fedrowitz, Shitemi, Wahlers, & Ziegel, 2011; Trust Africa Policy Brief, 2010; Yizengaw, 2008). As earlier mentioned in the introduction chapter, the university education system in Uganda (i.e. structure and curriculum) is more or less the same as after the country attained its independence in 1962 and that makes its relevance highly debatable in this knowledge and innovation explosion era (Kasule et al. 2014). Besides, the teaching is predominantly theoretical (i.e. knowledge transfer) where most teaching staff use teacher-centred methods (Kasozi, 2003; Otaala, Maani & Bakaira, 2013). For instance, O'Sullivan's (2010) study indicates that students at Kyambogo University blamed their lecturers for mainly giving them more theoretical and less practical knowledge and skills. Thus, the pronounced need to create a shift in what students learn and how they are taught cannot be over emphasised (Mugimu and Ezati, 2010; Thijs & Van den Akker, 2009). Bakkenes, Vermunt, & Wubbels (2010) assert that teachers are regarded as the most important agents in shaping education for students and in bringing about change and innovation in educational practices. Inevitably, this, therefore, requires teachers to keep abreast with the current developments that are occurring in their areas of speciality and the education field as a whole.

Moreover, Little (1993) avows that school improvement is most surely and thoroughly achieved when teachers engage in frequent, continuous and increasingly concrete talk about teaching practices that can enable them to effectively execute their present and future duties. However, most university teaching staff in Uganda just like in other countries the world over, often begin teaching based on their experiences as students in the colleges or universities they attended with hardly any pedagogical and/or andragogical background (Mundy, Kupcyzynski, Ellis & Salgado, 2012). This raises concern regarding the extent to which such university teaching staff possess competence to effectively handle the instructional process, among other things (Kasule et al. 2014; Mugimu & Ezati, 2010). Consequently, graduates from Ugandan universities that are under the tutelage of university teaching staff that are not well trained and developed in most cases not only do they fail to meet their own expectations, but also fail to

meet the expectations of employers as well (Baligidde, 2013; Baryamureeba, 2013; Businge, 2014; Kirunda, 2014). In light of the foregoing, we espouse, Putman & Borko (1997) and Tigelaar, Dolmans, Wolfhagen & Van der Vleuten's (2004) assertion that due to the changing visions on student learning and the teacher role, university teaching staff have an obligation to continuously develop themselves professionally. However, for university teaching staff to be able to perform their roles differently in improved and/or new ways, they need to acquire innovation competence (Kasule et al. 2014; Kibwika, 2006).

In this thesis as already pointed out in the introduction chapter, teaching staff innovation competence is conceptualised as a cluster of separate capacities and skills that teachers require so as to improve the existing education service (Kasule et al. 2014). In this knowledge and innovation era, university teaching staff are expected to stimulate and promote innovative behaviour of students and communities as well (Kropff, 2014). However, the lack of innovative behaviour from the university teaching staff in most African countries such as Uganda is striking (Kasule et al. accepted; Kibwika, 2006). Inevitably, this is considered as one of the biggest obstacles regarding the preparation of students (Baryamureeba 2013; Kibwika, 2006).

Voluminous research literature suggests that the key to sustaining teacher effectiveness in any education reform regardless of context, is through professional development (Broad & Evans, 2006; Chen & Chang, 2006; Fullan, 2007). Based on the previous chapters on the importance of innovation competence of teachers in higher education and their actual innovation competence levels, this study explored the professional development activities perceived as being important to enhance university teaching staff innovation competence. The next section presents the theoretical framework that guides this study. This is followed by methods and results in which the study outcomes are presented. The discussion section comments on these results. Finally, limitations of the study and suggestions for future research, and the study conclusion, are presented.

4.2 Theoretical Framework

Further to the theoretical framework described in chapter 2, it can be said that in an increasingly challenging higher education environment characterised with: larger and more diverse student populations; demand for labour market-driven study programmes; fostering of innovation; and the use of ICT to support student learning, the need to provide teaching staff with appropriate professional development that cannot be overstated (see e.g. Ferman, 2002; Garcia & Roblin, 2008; Maor, 2006). In this section the notion of professional development of

teachers is further elaborate. Professional development, in a general sense, is seen as the development of an individual in a prescribed professional role. This can be done through formal means (such as attending accredited courses, conferences, seminars, workshops, coaching and mentoring, etc.) and through informal means (such as reading professional publications, peer discussions, excursions, watching/listening to materials related to an academic discipline, etc.) (Villagas-Reimers, 2003).

Professional development is mainly informed by the experiential learning theory as advanced by Kolb (1984). In support of Kolb's Learning Cycle (i.e. experience, reflective observation, abstract conceptualisation, and active experimentation), Beaty (1998) asserts that professional development mostly involves experience, but also a systematic approach to learning involving reflection, conceptualisation and planning. This corresponds with Weisbords' (1989) assertion that learning is associated with effective planning, problem-solving, and experimentation. From the conceptualisation of professional development, it can fairly be deduced that professional development activities in educational settings are aimed at enhancing the professional knowledge, skills, and attitudes of teachers so that they might in turn improve the learning of students (Guskey, 2002; Ingvarson, Meiers & Beavis, 2005; Runhaar, 2008).

Besides, professional development is considered vital for university teaching staff because most of them are not trained teachers (Moses, 1993; Nasr, Gillet & Booth, 1997). Thus, their pedagogical competence can fairly be contested. This is buttressed by Quinn (2003) who posits that more often than not university teaching staff have little or no training for their role as teachers and community developers. Hitherto, these are some of their core tasks in the university service. As such, the growing emphasis on quality assurance in higher education has led to increasing pressure internationally to provide professional development to university teaching staff to address their professional competence gaps (Quinn, 2003). Nonetheless, it is widely accepted that university teaching staff are unquestionably regarded as experts in their own fields when it comes to their areas of speciality (Ferman, 2002).

Professional development of teachers is also considered as an essential ingredient to educational reforms (Fullan, 2007). The importance of teacher professional development for curriculum change is further accentuated by Villagas-Reimers (2003), thus:

'... regardless of the scope of the reform, the relationship between educational reform and teachers' professional development is a two way, or reciprocal, relationship … educational reforms that do not include teachers and their professional development have not

been successful. Professional development initiatives that have not been embedded in some form of structures and policies have not been successful either...' (p. 24).

De Rijdt, Dochy, Bamelis, & Van der Vleuten (2014) advance that educational institutions need to offer diverse professional development activities that can enable university teaching staff deliver services that meet the expectations of students, employers and society in general. Likewise, Hunzicker (2011) avows that effective professional development for university teaching staff should be job-embedded as this makes it relevant and authentic. Besides, attempts should be made to ensure that professional development activities provided to university teaching staff are aligned with the tasks under their jurisdiction.

According to Ferman (2002), the professional development activities university teaching staff find valuable include: 1) Formal collaborative professional development activities (working with educational designers, course designing with peers, observation of peers, membership of research teams, team teaching, peer professional development group, professional practice experience, professional supervision, membership of committee, attending workshops and short courses, attending and presenting at conferences); 2) Informal collaborative professional development activities (discussion with peers, being mentored, networks, informal peer review, peer feedback); 3) Formal individual professional development activities (professional reading, keeping a reflective diary, using new technology, videoing oneself, designing workshops, solo course design, individual research, supervising students, and formal study); and 4) Informal individual professional development activities (Mental reflection).

However, literature tends to suggest that one-time professional development activities (such as generic conferences, workshops and seminars) rarely have a lasting impact on the teaching staff job performance as compared to longer term professional development activities (for instance, credentialed certificates, mentoring and coaching) (Weaver et al. 2013). This concurs with Ehrich, Tennant & Hansford's (2002) assertion that mentoring, for example, has long been recognised as one of the most appropriate professional development activities for staff performance improvement in educational settings. Mansvelt, Suddaby & O'Hara (2008) assert that teaching staff engaged in e-learning in tertiary institutions, for example, are not making use of the formal professional development opportunities available to them. Rather, they seem to gain their knowledge and support from a variety of informal means. As such, this shades some light on the kind of professional development activities that are preferred by university teaching staff.

Ellington (2000) advanced seven golden rules for becoming an excellent tertiary-level teacher. These include the teaching staff's ability to: find out how students learn; set appropriate learning targets; use appropriate teaching/learning methods; use appropriate assessment methods; monitor and evaluate the instructional process; always try to improve performance; and keep up-to-date. However, it is vital to note that the roles of university teaching staff have become more complex as earlier on mentioned. Prior to the 21st century, the university teaching staff main role was to teach, for instance to impart knowledge to their students via lectures and similar face-to-face activities (Ellington, 2000). But, these days university teaching staff are required to develop and implement educational programmes that enable students to develop competencies necessary to effectively function in society on job (Wesselink et al. 2010). To this effect, Kasule et al. (2014) developed a higher education teacher innovation competence profile (see Chapter 2).

Current literature indicates that university teaching staff in Ugandan, have low innovation competence levels (Kasule et al. accepted) (see Chapter 3). This has a negative connotation on the quality of education and other services provided by universities such as Kyambogo. This is supported by several commentators on Ugandan university education such as Baligidde (2013), Baryamureeba (2013), Businge (2014), Kasozi (2003), and Kirunda (2014) who advance that university education in Uganda is of a low quality to significantly foster socio-economic development, thus, needs reform. As such, this necessitates putting in place improved and/or new ways of preparing and developing of university teaching staff. This is critical if university teaching staff are to be assisted to cope with their work demands as well as the technological and innovation developments that are currently having such an impact on higher education (Mulder, 2014; Peter, 2004).

However, the available literature indicates that the current professional development activities for university teaching staff mainly focus more on the content of what teachers teach and the instructional process, and less about the different roles they can play (Weaver et al. 2013). Moreover, literature indicates that in higher education there seems to be reluctance for professional training and development for university teaching staff (McAleese, Bladh, Berger, Bode, Muehlfeit, Petrin, Schiesaro, & Tsoukalis, 2013). This is buttressed by Hamdan's (2011) study findings that indicate that a large number of teachers' attitudes towards professional development activities is less positive, especially in developing countries, Uganda being no exception. Therefore, if we want university teaching staff to significantly contribute to university education reform aimed at equipping students with the capability to address the present and future global economy needs and challenges, the need to identify

professional development activities that can be used to support university teaching staff innovation competence cannot be overstated.

This study espouses the notion of involving teachers in establishing professional development activities they deem relevant in enhancing their present and future university tasks. Otherwise, the chance is big that they will not participate knowing the research findings of Hamdan (2011). Besides, management literature indicates that when employees participate in making decisions that affect their work and personal life, their commitment, motivation, loyalty more often than not is enhanced (Kular, Gatenby, Rees, Soane & Truss, 2008). Accordingly, this study posits that if we want to improve the attitudes of university teaching staff in participating in professional development activities, it is prudent to consider involving them in setting up activities they are more willing to participate in. Hence, the main aim of this study, therefore, is to contribute towards this research agenda.

The study was guided by the following research questions: *1. Which professional development activities are perceived as being important for university teaching staff innovation competence? 2. What is the level of university teaching staff participation in innovation-oriented professional development activities? 3. What is the relationship between university teaching staff participation and perception of the degree of importance of innovation-oriented professional development activities?*

4.3 Methods

4.3.1 Design of the Study

The study employed an exploratory research design. This design was considered appropriate because an exploration is needed to identify important variables to study quantitatively when little or nothing is known about a phenomena or when a researcher wants to generalise results to different groups (Morse & Niehaus, 2009). It is also advanced that in an exploratory study, the results of the first method (qualitative) can help develop or inform the second method (quantitative), according to Creswell (2013). As such, in this study, qualitative data obtained by means of in-depth interviews were used to develop a closed-ended questionnaire in order to obtain quantitative data from a relatively big sample to validate the qualitative findings.

4.3.2 Context and Participants

As said earlier, this study was conducted at Kyambogo University, Uganda's second largest public university. Currently, the University severely lacks well trained and developed

teaching staff with innovation competence to effectively help the university accomplish its tasks effectively (Kasule, et al. accepted). As such, professional development for teaching staff at the university should be a matter of top priority. The study involved university SAS and teaching staff at Kyambogo University. The former category was selected because they are central in organising as well stimulating staff in engaging in professional development activities. Meanwhile, the latter was selected because, as earlier mentioned, it is crucial to involve teachers in deliberating on issues regarding their professional development. This is critical if we want to improve teachers' attitudes and commitment towards continuing professional development, especially at the higher education level.

Accordingly, the university teaching staff were involved in a questionnaire survey to validate the suggested innovation-oriented professional development activities mentioned in the exploratory interviews. Participants in the exploratory interviews included the deputy vice-chancellor- academic affairs, academic registrar, faculty deans and departmental heads (Table 4.1). They were selected and preferred for the interviews because they are fully involved in the management and development of university teaching staff. The interviewees were sent letters requesting them to voluntarily participate in the interview survey. They were also requested to indicate their time (at least one to two hours) and place of preference for the interview. As such, this informed the interview protocol.

Table 4.1: Distribution of Participants in Exploratory Interviews Regarding the Needed Professional Development Activities to Develop University Teaching Staff Innovation Competence (n = 20)

Faculty/ Department	**Participant**	**Number of interviews**
Vice-Chancellor Office	Deputy Vice-Chancellor- Academic Affairs	1
Academic Registrar	Academic Registrar Deputy Academic Registrar	2
Post Graduate	Dean	1
Education	Dean HoD, Teacher Education and Development Studies HoD, Educational Psychology HoD, Foundations of Education HoD, Educational Planning and Management	5
Management and Entrepreneurship	Dean HoD, Accounting and Finance HoD, Business Administration and Entrepreneurship HoD, Management Science HoD, Procurement and Marketing	5
Arts and Social Science	HoD, Economics and Statistics HoD, History HoD, Religious Studies HoD, Sociology and Social Administration	4
Vocational Studies	Agriculture	1
Science	HoD, Physics	1
	Total =	20

HoD*Head of Department

The same sample of SAS and teaching staff that participated in validating competencies higher education teachers need for innovation, and the extent teaching staff possess these competencies at Kyambogo University, were used with the same sampling techniques in this study (see Chapter 2, section 2.3.2). Of the 330 questionnaires (paper and pencil questionnaires) administered to the sample population, 261 questionnaires were returned and after screening for missing data, were considered usable. This represents 65.4% response rate. In a cross-sectional survey questionnaire research, the ideal is to get a 100% response rate, however, several social science researchers consider it acceptable to obtain a 50% response rate (Kumar, 2011) and this present study meets this criterion. After getting permission from the university management to conduct the study at Kyambogo, the researcher, together with the research assistants, approached the selected university SAS and teaching staff individually and requested them to respond to the study questionnaire.

4.3.3 Instrument

Exploratory Interviews

Using a purposive sample method, twenty face-to face exploratory interviews were conducted with the deputy vice-chancellor- academic affairs, academic registrar, deans and departmental heads at the university (Table 4.1). Exploratory interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation (Boyce & Neale, 2006). Moreover, in a study with a specific problem statement, data saturation usually occurs after 12 - 25 interviews (Guest, Bunce, and Johnson, 2006; Marshall, 1996). The study employed semi-structured interviews because standardisation of the core questions allows for replication of the interview with the different participants, thus, ensuring data reliability (Kumar 2011). All interviews were conducted within a time frame of two months. The interviews took approximately one-and-a-half hours each. The central question of the interviews was: *Which professional development activities do you think are important to enhance university teaching staff innovation competence?*

Questionnaire

The qualitative data obtained from the exploratory interviews (Table 4.2) acted as a basis to construct a close-ended questionnaire. The questionnaire aimed at quantifying the results from the interviews as well as complimenting the interview results by bringing out

other study aspects which could be better explained quantitatively (Creswell, 2013). As such, the university SAS and the university teaching staff responded to 13 close-ended questionnaire items requiring them to indicate the degree of importance of the mentioned professional development activities from the exploratory interviews. For purposes of keeping the questionnaire short and concise, competence domains that had more than three suggested professional development activities were put into two categories, for instance, formal and informal activities.

The study questionnaire in total had 26 items - 13 items on a five-point Likert scale ranging from, not important = 1 to extremely important = 5 (Table 4.4). This aimed at identifying professional development activities perceived as being important in enhancing university teaching staff innovation competence. Meanwhile, the other 13 questionnaire items - along a five-point Likert scale ranging from never = 1 to very frequently = 5 (Table 4.4), aimed establishing the extent to which teaching staff at Kyambogo University participate in the suggested professional development activities that considered important in enhancing teaching staff innovation competence. Accordingly, this made it possible to perform a Pearson product-moment correlation coefficient test so as to establish the relationship between participation and perception of the degree of importance of professional development activities perceived as being important for university teaching staff innovation competence.

4.3.4 Data Analysis

Each interview was audio-taped, transcribed verbatim, and data analysed using the deductive content analysis technique, or as Glaser & Strauss (1967) put succinctly, by means of axial coding. This technique involves using a structure or predetermined framework to analyse data (Burnard, Gill, Stewart, Treasure & Chadwick, 2008). As such, the interview data transcription and analysis was done according to the five university teaching staff innovation competence domains as advanced by Kasule et al. (2014). Quantitative data were analysed using IBM SPSS Statistics 20 Computer Programme.

Descriptive statistics were used to summarise and describe the participants' responses regarding the degree of importance of perceived professional development activities for university teaching staff innovation competence and the level of university teaching staff participation in these professional development activities (Table 4.4). The descriptive statistic values regarding the degree of importance of perceived PDAs for university teaching staff innovation competence in this study were interpreted as follows: 1.00-1.99 = not important; 2.00-2.99 = slightly important; 3.00-3.99 = important; 4.00-4.99 = very important; 5.00 =

extremely important. Meanwhile, the descriptive statistic values regarding level of university teaching staff participation in the professional development activities were interpreted as follows: 1.00-1.99 = no participation at all; 2.00-2.99 = participation was rare; 3.00-3.99 = participation was occasional; 4.00-4.99 = participation was frequent; 5.00 = participation was very frequent. ANOVA was performed to check whether there are significant differences between the SAS and the teaching staff (Table 4.4). In addition, Pearson product-moment correlation coefficient test was conducted. This aimed at establishing whether there was a significant relationship between teaching staff participation and perception of the degree of importance of professional development activities perceived as being important for university teaching staff innovation competence (Table 4.4).

4.4 Results

In this section, professional development activities perceived as being important for university teaching staff innovation competence from the interview and the questionnaire survey are reported. In addition, findings regarding university teaching staff participation in these professional development activities and the relationship between participation and perception of the degree of importance of professional development activities are also reported.

The exploratory interviews results in a series of suggestions of professional development activities perceived as being important for university teaching staff innovation competence. The following are examples of that, listed by innovation competence domain.

Innovating

'... teaching staff need to attend innovation education and training. As you know, innovation these days is critical for individuals, organisations and nations to cope with unprecedented changes in the global economy. Besides, teaching staff have to act as innovation knowledge and skill 'conduits' and by so doing assist the students and a wider community to improve product or service provision in the different labour sectors'. Academic Registrar

'... teaching staff need to be provided with opportunities to attend innovation-oriented conferences, workshops, seminars, and symposia. I think this is important because they can get the opportunity to meet and discuss best innovation practices with highly innovative people as well as meeting other people who might be interested and/or can support their innovations or ideas'. Head of Department

'... University management should come up with a policy requiring departments to at least have one innovation brainstorming session in a month. This is important for the exploration and discussion of best practices that can help improve service or product provision. Secondly, I think it is vital for University management to organise innovation-oriented excursions for teaching staff. This can help them become aware of better service or product provision practices elsewhere and then adjust theirs accordingly'. Deputy Vice-Chancellor, Academic Affairs

'... In fact all the teaching staff in one way or the other should be involved in action research. Action research provides them the platform to: inquire about problems and take action to solve them; change work practices as part of the research process; and developing a continuous improvement mentality'. Dean of Faculty

Knowledge Society Facilitating

'... teaching staff need to be provided with training in technology-supported teaching and learning. This is important because online teaching and learning can help in addressing higher education challenges such as overwhelmingly huge enrolments and diverse student learning needs such as study time preferences'. Academic Registrar

'... attending knowledge society development conferences and other fora, certainly can help one to get insights into community problems as well as developing solutions with colleagues from diverse backgrounds'. Head of Department

Collaborating and Networking

'... teaching staff need to use online and offline means to keep in touch with realities and experts from other institutions/industries/business organisations/government, etc. This is important because it can keep them abreast with developments in their areas of speciality'. Dean of Faculty

'... participation in staff exchange programmes is very much needed, to give opportunities to the teaching staff to learn about new and/or different (better) practices and strategies being used by other institutions'. Head of Department

Higher Education Designing and Developing

'... teaching staff need to participate in higher education curriculum design and development training programmes. This is important because it puts them in a good position where they can organise the instructional process within the framework of the approved higher education educational programmes. Thus, leading to implementation of the higher education curriculum in a manner that meets the student needs'. Deputy Vice-Chancellor, Academic Affairs

'... teaching staff need to be given opportunities to explore and discuss the best practices of higher education curriculum construction and implementation. It is also important for them to have time and space to reflect on existing higher education curriculum. Thus, determine or choose educational goals, objectives, method of instruction, instructional materials, assessment & evaluation tools that would be best suited for the course. This is a key determinant in achieving the desired higher education outcomes'. Dean of Faculty

Entrepreneurship

'... teaching staff should undertake entrepreneurship education as a training course. This is very much needed because teachers need to equip students with entrepreneurial knowledge and skills for both commercial and non-commercial purposes. Besides, one cannot give what he/she does not have'. Head of Department

'... teaching staff need to be provided with opportunities to attend entrepreneurship-oriented conferences, workshops, seminars, and symposia. Yes, I think this is vital because teaching staff can have the opportunity to meet and discuss best entrepreneurship practices with various gurus in entrepreneurship as well as meeting other people who might be interested and/or can support their entrepreneurial initiatives'. Dean of Faculty

'... it is a good idea to link teaching staff to prominent entrepreneurs and they engage them as resource persons. This is important because the teaching staff and their students can keep in touch with the realities in the entrepreneurial world'. Deputy Vice-Chancellor, Academic Affairs

The aforementioned suggestions were aggregated and categorised into formal and informal innovation-oriented activities (see Table 4.2).

Table 4.2: Suggested Professional Development Activities Perceived as Being Important for University Teaching Staff Innovation Competence Mentioned from Exploratory Interviews (n = 20)

Competence Domain	Formal Innovation-oriented Professional Development Activities	Informal Innovation-oriented Professional Development Activities
Innovating	• Accredited innovation education and training • Innovation conferences, workshops, seminars, and symposia • Innovation coaching and mentoring programmes • Action research	• Innovation games • innovation brainstorming sessions • Innovation-oriented excursions • Membership to innovation networks
Knowledge society facilitating	• Accredited training in technology-supported teaching and learning • Accredited training in Massive Online Open Courses (MOOCs) • Knowledge society development conferences, workshops, seminars, and symposia	• Knowledge society development brainstorming sessions • Membership to knowledge society development social networks
Collaboration and networking	• Accredited training in collaboration tools and social networking technologies • Twinning programmes • Membership to academic and professional networks	• Collaboration and network games • Membership to social network groups
Higher education designing and development	• Accredited training in higher education curriculum studies • Higher education curriculum design and development conferences, workshops, seminars, symposia • Higher education curriculum design and development coaching and mentoring • Membership to higher education curriculum designing teams	• Reflective practice on higher education curriculum design and development • Academic and professional discussions with colleagues on higher education curriculum design and development
Entrepreneurship	• Accredited entrepreneurship education and training • Entrepreneurship conferences, workshops, seminars, and symposia	• Membership to entrepreneurship networks • Entrepreneurship brainstorming sessions • Entrepreneurship-oriented excursions

Findings from the exploratory interviews were subjected to a questionnaire survey so as to establish the degree of importance of the professional development activities and the participation level of university teaching staff in the professional development activities. The

results indicated that teaching staff, on all the five innovation competence domains, were more positive than the SAS on the degree of importance of the mentioned professional development activities from the exploratory towards innovation competence enhancement of university teaching staff. Meanwhile, regarding the extent to which the university teaching staff participated in professional development activities perceived important for their innovation competence enhancement, on all the five innovation competence domains, the SAS had more negative scores than the teachers regarding the extent to which university teaching staff participate in professional development activities that are key for the execution of present and future university tasks.

Descriptive statistics were conducted to establish the extent SAS and teachers do think differently about formal and informal mentioned professional development activities perceived as being important for university teaching staff innovation competence enhancement. Results showed that both the SAS and the teaching staff perceived the importance of formal and informal professional development activities to enhance university teaching staff innovation competence in more or less the same way. This therefore implies that no professional development activity type is preferred over the other. This is supported by the low Standard deviations (Table 4.3). The ANOVA results (Table 4.4) showed that there were statistically significant differences among the two categories of respondents regarding the degree of importance of professional development activities suggested as being important to enhance university teaching staff innovation competence and the extent to which the teaching staff participate in such activities at Kyambogo University. The results in Table 4.4, further reveal that the differences in means were small as portrayed by effect size scores.

Table 4.3: Means and Standard Deviations Regarding the Importance of Formal and Informal Professional Development Activities towards Innovation Competence Enhancement (N = 216) by Number of Respondents and Respondent Category (Range of importance scale: 1 = not important; 5 = extremely important)

Respondents	**Degree of importance of formal professional development activities**		**Degree of importance of informal professional development activities**	
	Mean	**Std. Deviation**	**Mean**	**Std. Deviation**
SAS	3.13	.58	3.12	.58
Teaching staff	3.50	.58	3.51	.57

Table 4.4: Means, Standard Deviations and ANOVA Results Regarding PDAs degree of importance and Teaching Staff Participation in PDAs by Number of Respondents by Respondent Category (N = number of respondents; M = Mean; SD = Standard Deviation; Range of importance scale: 1 = not important; 5 = extremely important; Participation scale: 1 = Never; 5 = Very frequently)

PDAs for teaching staff innovation competence domains	Respondents	PDAs degree of importance						Teaching staff participation in PDAs				
		N	M	SD	Sig.	F	Eta Squared	M	SD	Sig.	F	Eta Squared
Innovation education and training courses; innovation coaching and mentoring; innovation games etc.	Teaching staff	126	3.54	.72	.000	36.01	.14	2.63	.40	.000	51.68	.19
	SAS	90	2.94	.71				2.24	.39			
	Total	216	3.29	.77				2.47	.44			
Training in technology-supported teaching and learning etc.	Teaching staff	126	3.58	.77	.000	17.71	.07	2.57	.48	.000	51.02	.19
	SAS	90	3.12	.79				2.13	.38			
	Total	216	3.39	.81				2.38	.49			
Participating in twining programmes; training in the use of collaboration tools and social networking tools etc.	Teaching staff	126	3.61	.79	.019	5.60	.02	2.59	.39	.000	82.94	.27
	SAS	90	3.34	.87				2.11	.37			
	Total	216	3.50	.83				2.39	.45			
Education; coaching and mentoring in higher education design and development etc.	Teaching staff	126	3.57	.79	.022	5.32	.02	2.55	.45	.000	56.62	.20
	SAS	90	3.33	.69				2.11	.36			
	Total	216	3.47	.76				2.37	.46			
Education and training; coaching and mentoring in entrepreneurship etc.	Teaching staff	126	3.28	.55	.000	13.29	.05	2.64	.43	.000	79.80	.27
	SAS	90	2.97	.66				2.12	.39			
	Total	216	3.15	.61				2.42	.48			

*The mean difference is significant at the 0.05 level

Relationship between participation and perception of the degree of importance of professional development activities perceived as being important for university teaching staff innovation competence

Pearson product-moment correlation coefficient was computed to establish the relationship between participation and perception of the degree of importance of professional development activities perceived as being important for university teaching staff innovation competence. Results showed that out of the five university teaching staff roles, it is only the higher education designing and developing role that had a significant correlation between university teaching staff participation and perception of the degree of importance of the professional development activities, r = -.160, n = 216, p = .019. The coefficient of determination was computed to give the proportion of the variance that is shared by both variables, r^2 = .03 (Table 4.5). This denotes that despite the increase in degree of importance of professional development activities perceived as being important to enhance the teaching staff's higher

education designing and developing role, university teaching staff participation in the professional development activities associated with the aforementioned role was depicted as simply becoming less. However, it can be observed that the negative correlation of r = -.160 was 'very weak' (see for example, Evans, 1996). Thus, we posit that this findings need to be treated with caution.

Table 4.5: Correlation Between Participation and Perception of the Degree of Importance of Professional Development Activities Perceived as Being Important for University Teaching Staff Innovation Competence (N = 216)

PDAs for UTS present and future roles	**Participation**		**Importance**		**Correlation coefficients within variables and between participation and perception of the degree of importance of PDAs**				
	M	**SD**	**M**	**SD**	**1**	**2**	**3**	**4**	**5**
1. Innovation-oriented PDAs	1.50	.50	1.62	.48	.13				
2. Knowledge society facilitating-oriented PDAs	1.49	.50	1.46	.49	.33**	-.12			
3. Collaborating and networking-oriented PDAs	1.41	.49	1.43	.49	.46**	.56**	-.04		
4. Higher education designing and developing-oriented PDAs	1.62	.48	1.53	.50	.50**	.35**	.67**	-.16**	
5. Entrepreneurial-oriented PDAs	1.56	.49	1.71	.45	.30**	.48**	.49**	.46**	-.01

**Correlation is significant at the 0.05 level (2-tailed)

4.5 Discussion

This study aimed at profiling the necessary professional development activities that can be used to enhance university teaching staff innovation competence domains as profiled in Chapter 2. The results showed that several formal and informal professional development activities need to be aligned with various university teaching staff roles instead of solely focussing on the instructional process in the classroom (Boud & Brew, 2013; Ellington, 2000; Quinn, 2003). The following professional development activities were perceived by university SAS and teaching staff to be important in enhancing the university teaching staff innovation competence.

Attending and/or participating in innovation-oriented: education and training courses; conferences, workshops, seminars, symposia, and brainstorming sessions; undertaking individual and/or participating in action research; membership to professional groups; coaching and mentoring programmes; and simulation games. However, much as both the university SAS and the teaching staff concurred that the aforementioned professional development activities are important to enhance university teaching staff innovation competence, it was established in the present study that there was rare participation in the professional development activities by the university teaching staff. There could be several reasons for this, thus warranting investigation. However, one of the reasons could be the university SAS' failure to treat professional development activities of university teaching staff as a top priority.

The foregoing assertion is based on the study finding herein, which showed that the university SAS were less positive than the teaching staff regarding the professional development activities perceived to be important to enhance university teaching staff innovation competence. Hitherto, university SAS are pivotal in organising a large amount of the professional development activities that teaching staff require to address their competence gaps. This points to a need to sensitise the university SAS about the significance of attending and participating in professional development activities that enhance innovation competence, before the same is done to university teaching staff.

The affirmation of De Rijdt et al. (2014) buttresses that educational institutions need to offer diverse professional development programmes to allow staff members to keep up with educational innovations and to guarantee educational quality. As such, participation in innovation-oriented professional development activities can help the university teaching staff to develop the capability to always try to improve performance when executing university tasks under their jurisdiction. Besides, the present world of work and life in general requires people to generate and apply new ideas/solutions solve problems and adapt to new situations (Rush, 2000).

In the event that most university teaching staff (especially the older generation) in African countries like Uganda lack adequate knowledge and skills to use ICT to support student learning (Aguele, 2007; Muwanga, 2009), the suggested professional development activities such as attending accredited education and training courses in technology-supported teaching and learning, is seen as key in equipping the teaching staff with the capability to use online technology within universities which is increasing (Maor, 2006). It can also be noted that participation in the aforementioned professional development activity, not only enhances the university teaching staff's capability to use ICT as tools to meet the learning needs of a large number of students, but also helps them to expand their opportunities for reflection, dialogue and collaboration beyond the classroom activities (Garcia & Roblin, 2008).

The findings of this study are also in accordance with the previous research suggesting that university teaching staff roles and responsibilities have expanded to become both more diverse and more complex because these days university teaching staff are expected to be course designers, marketers, technology experts and administrators (Brew & Boud, 1996; Ferman, 2002). This, therefore, implies that it is vital for university teaching staff to attend and participate in higher education curriculum design and development programmes and activities.

In the framework of Uganda universities, for example, university teaching staff in their respective departments, design and develop their own educational programmes (Kasule et al. 2014; Mamdani, 2007). However, most of the current educational programmes are labelled as being less relevant to Uganda's national development and labour market needs (Baryamureeba, 2013; Kasozi, 2003). As such, this has in part significantly contributed to the big unemployment rates because many graduates do not have the knowledge and skills required by the national and international labour market (British Council, 2014; Rangel & Ivanova, 2014). Thus, university teaching staff need to collaborate as well as network with experts in higher education curriculum design and development if they are to develop labour market responsive study programmes. Moreover, universities regardless of context cannot afford to continue providing obsolete educational programmes to students and expect them to have the capability to solve problems and challenges that emerge every now and then in the world of work as well as other aspects of life in general (Kasule et al. 2014).

The results of the present study also support the notion of social or collaborative and individual formal and informal avenues adopted by university teaching staff to strengthen their professional practice. Besides, the value of collaboration and collegiality across all kinds of learning endeavour is well accepted (Ferman, 2002). Collaborating and networking is considered as a critical element for individuals, organisations and nations to thrive in the present and future global knowledge and innovation economy (Economist Intelligence Unit, 2009; Trilling & Fadel, 2009). Universities need to have adequate teaching staff who can effectively and efficiently participate in collaboration and linkage programmes aimed at improving university service delivery (Kasule et al. 2014).

University teaching staff participation in collaborating and networking-oriented professional development activities can, therefore, be considered useful in ensuring that university teaching staff develop their ability to pass on the collaborating and networking knowledge and skills to students. As such, when students join the world of work, they can be able to: work with diverse groups of people towards the achievement of mutual organisational goals; recognise and respect different perspectives; and be open to the ideas and views of others (Trilling & Fadel, 2009).

The need for university teaching staff to possess collaborating and networking competence in a climate of university education reform cannot be overstated. This is based on the notion that they are expected to be actively involved in benchmarking the best practices from other universities and tertiary institutions (Kibwika, 2006), leave alone collaborating and networking with government sectors, industries, business organisations, and local

communities to ensure that they deliver university service that meets the needs and expectations of the clients and other stakeholders (Baryamureeba, 2013; Kasozi, 2003; Mamdani, 2007).

4.6 Limitations and Suggestions for Future Research

One of the limitations of this study is that it was exploratory in nature and was based on perceptions of the study respondents. As such, this makes the validation of the study problematic since, for example, no two individuals may perceive a situation in exactly the same way. It is hereby suggested that a similar study is conducted using a relatively big sample involving research methods such as longitudinal study and observations. It is hoped this can help in getting insights regarding the professional development activities that work and those that do not work when it comes to enhancing the university teaching staff innovation competence. Similarly, this thesis also suggest empirical studies to be undertaken to establish facilitating factors of university teaching staff professional development in African countries like Uganda. Furthermore, there is need to establish the university teaching staff's attitudes and willingness to participate in innovation-oriented professional development activities.

4.7 Conclusion

This study has profiled several formal and informal professional development activities which can serve as a good point of departure in an attempt to develop university teaching staff innovation competence. The study deduces that both formal and informal professional development activities are equally important and valued by the university teaching staff. As such, university management should equally support teaching staff engagement in both formal and informal professional development activities profiled herein as being important to enhance innovation competence. Notwithstanding the important role professional development play towards teacher job performance at any educational level, it has been established in this study that university teaching staff rarely participate in professional development activities at Kyambogo University. This situation ought to be mitigated.

This study posits that one of the critical ways is to create awareness among the university teaching staff and SAS through accentuating the fact that continuous learning in the knowledge and innovation era is not an option for professionals regardless of the labour field if they want to remain relevant in the 21st century world of work. In this light, it is vital that

education institutions, especially universities, encourage their staff to participate in innovation-oriented professional development activities as one of the sure ways of enabling individuals come up with ways or ideas to improve services or products in the institution. Further research is also needed to provide insights into human resource management conditions that are needed in universities like Kyambogo for university teaching staff to actively participate in innovation-oriented professional development activities. This will in turn ensure that universities have adequate teaching staff with the capability to significantly contribute towards initiating and implementing desired reforms for better university education, research, innovation and community development services.

Chapter 5

The Influence of Hygiene and Motivation Factors on Teaching Staff Innovation Competence

Abstract

As has been shown in the previous chapter, universities play an important role in building knowledge and innovation in societies. Literature, however, shows that most universities in Africa lack teaching staff with innovation competence. In that regard, measures should be undertaken to improve the situation. Herzberg's Two Factor Theory has been recognised as one of the most influential motivation theories in management science literature that can be used to help in lifting employee performance from mediocre to excellence. As such, this study by means of a survey method, explored whether hygiene and motivational factors are perceived as important in influencing teaching staff innovation competence. Data were collected through a questionnaire administered to teaching staff (n = 320) at Kyambogo University and analysed using descriptive statistics and Pearson's correlation. Overall, the study revealed that both hygiene and motivation factors do matter when it comes to teaching staff's innovation competence enhancement. The study also established that there is a significant relationship between the degree of importance of hygiene and motivational factors and teaching staff perception of innovation competence enhancement. This implies that the importance university teaching staff attach to the hygiene and motivational factors at the work place correlates with the way they think their innovation competence can be enhanced. Based on the findings, it was recommended that university management should make the work conditions for teaching staff more favourable, for instance, by providing: good working space; information communication and technology services; stability of tenure; lucrative remuneration; and career development opportunities. This is perceived as being vital in enhancing teaching staff innovation competence.

5.1 Introduction

Teachers must be encouraged- I almost said 'freed', to pursue an education that strives for depth of understanding. Howard Gardner

Universities, regardless of context, are expected to play a pivotal role in building knowledge and innovation societies through: preparing graduates with relevant competencies for the labour market; advancing science and technology; and transferring knowledge and technology to industry and society (Cai & Liu, 2013; Mowery & Sampat, 2003; Todtling, 2006). Authors such as Kropff (2014) and Rasmussen (2009) contend that innovation is key in economic competitiveness and individuals who can contribute to and participate in innovation are on a high demand the world over. As such, the demand for universities to prepare graduates with innovation competence to work in the various labour fields cannot be overstated. As argued in the previous chapters, for this to happen, there is need for universities to have adequate teaching staff with innovation competence (Kasule et al. 2014; Kibwika, 2006). However, current literature indicated that most universities in African countries, Uganda being no exception, severely lack adequate teaching staff with innovation competence to improve university teaching and learning, research, innovation and community service (British Council, 2014; Migosi, Migiro & Ogula, 2011; Kasule et al. 2014). Chapter 4 showed that there is an urgent need for teacher innovation competence development. Further research is needed into the factors that influence university teaching staff innovation competence so that university managers and the higher education sector technocrats can have good insight to come up with viable measures that can enhance university teaching staff innovation competence.

Regarding motivation of university teaching staff for innovation competence development and related human resource policy making, there are many challenges. The higher education sector, especially universities, have to deal with issues like massification, accountability, changing labour market demands, rapid pace at which new knowledge is created and utilised, social media and use of internet, and use of ICT in the instructional processes (Altbach, 2003; Machado-Taylor, Soares, Ferreira, & Gouveia, 2011; Ssesanga & Garret, 2005). These critical developments have brought serious challenges to universities across the globe with most African countries like Uganda being impacted more than in the developed world (Baryamureeba, 2013; British Council, 2014; Mamdani, 2007; Migosi et al. 2011). Similarly, Sawyerr (2004b) attests that in most African countries, conditions for research have been severely compromised as manifested by the generally poor remuneration, heavy teaching loads, inability to mentor young university teaching staff, and inadequate

infrastructure. In this light, there is need to establish salient factors that stimulate university teaching staff to do things differently and in new and/or improved ways in their respective areas of speciality. This is crucial if universities are to have teaching staff that are relevant in the knowledge and innovation era, leave alone having the capability to cope with new and/or ever changing university service demands and challenges.

However, it is vital to note that most of the prior research in the area of university teaching staff job performance mainly addresses factors influencing motivation of academic staff on the their teaching role (Ajayi, Awosusi, Arogundade, & Ekundayo, 2011; Aydin, 2012; Machado-Taylor et al. 2011; Shah, Samo, & Mughal, 2014; Shaheen, Sajid, & Batool, 2013). Meanwhile, a few studies have addressed factors related to low research productivity at the higher education level (Iqbal & Mahmood, 2011). The available literature on employee innovation enhancement is mainly in the business field. Consequently, there is little or no scientific literature that profiles the factors that enhance innovation competence of university teaching staff. As such, this study is set to provide insight into these factors. The next section presents the theoretical framework that guided this study. This is followed by methods and results in which the study outcomes are presented and the discussion section comments on these results. Thereafter, limitations of the study and suggestions for future research and the conclusion, are presented.

5.2 Theoretical Framework

As is clear from the previous chapters, it can be said that it is undisputable that universities need to have teaching staff with innovation competence if they are to remain relevant in both the national and regional innovation systems (Kasule et al. 2014; Kibwika, 2006; Nilsson, 2004). What the previous chapter did not elaborate is the factor of motivation. Machado-Taylor et al. (2011) assert that well-motivated university teaching staff can, with appropriate support, build a national and international reputation for themselves and the institution in professional areas, research and innovation. Other factors remaining constant, a well-motivated university teaching staff is a key determinant in realising student satisfaction as well as having a big impact on student learning and quality of life in society as a whole (Henard & Roseveare, 2012; Rowe, 2003). Thus, Ajayi et al. (2011) assert that prominence should be given to the element of the university work environment because it is vital in creating an endearing work atmosphere that can enhance university teaching staff performance.

Several authors such as: Aydin, 2012; Machado-Taylor et al. 2011; Shah et al. 2014; and Shaheen et al. 2013, all concur that hygiene and motivating factors as advanced by Herzberg, Mausner, & Synderman (1959) influence the job performance of teaching staff in higher education institutions to a significant extent. Herzberg et al. (1959) argue that an employee's motivation to realise peak performance at work can best be understood when the attitude of that employee is understood. This study also considers this assumption to be applicable to employees' innovation competence at the workplace. This is rooted in the premise that innovation more often than not emanates from a drive or motivation to address a deficiency and/or improve a service or product. Herzberg's Theory (Two-Factor Theory) is based on the assumption that there are two sets of factors that influence motivation in the workplace by either enhancing employee satisfaction or hindering it (Herzberg et al. 1959).

In this study, innovation competence has been conceptualised as a cluster of separate, at times overlapping sets of knowledge, skills and attitudes that individuals and organisations possess to generate and implement ideas aimed at improving a product or service (Kasule et al. 2014; Watts et al. 2013). It is incontestable that university teaching staff's contribution in the human capital development and technological advancement greatly depends on their motivation (Shaheen et al. 2013). Several studies have indicated that there are many variables that affect employee job performance, teaching staff in higher educational institutions being no exception. Examples of the variables that have been studied include: working conditions; salary and incentives; organisational culture; and promotion and career advancement opportunities (Awan, Munir, & Farid, 2013; Nadeem, Rana, Lone, Maqbool, Naz, & Ali, 2011).

In management literature, for example, Swanberg (2010) asserts that ensuring of: effective leadership and supervision; opportunities for learning and advancement; promotion of workplace flexibility; culture of inclusion; meaningful cultivation of teams and social supports; competitive compensation and benefits; and promotion of health and wellness is key in enhancing employee innovation in an organisation. Likewise, Dyer, Gregersen, & Christensen (2011) advance that giving employees (for instance, university teaching staff) opportunities to associate, question, observe, experiment and network is important for their innovation competence enhancement. In agreement with the aforementioned, Hamzah, Maidin, & Rahman (2011) affirm that building cultures of learning and collective learning is important in enhancing employee innovation competence. As such, continuous improvement through continuing education can help alleviate stifled, inflexible thinking among employees, which is a prerequisite to increase the innovation competence level of employees regardless of

the labour field (Schein, 2010). Besides, creating an innovation-oriented culture, where employees are given the time and resources needed to develop new mind-sets, skills and relationships; and aligning institutional policies and practices to the institutional innovation strategy, is considered central in enhancing employee innovation competence (Zaineb, 2010).

Innovation learning and management literature suggest that organisations should: do away with a blame culture and instead encourage a learning environment; have an open and transparent briefing process, where all who are involved are encouraged to contribute to organisational learning and individual learning; make sure that staff are encouraged to think 'outside the box' as well as making this a key behaviour competency that is recognised through an integrated reward and recognition strategy; provide a fearless, safe and risk taking environment which will help staff to have an independent thought of any issue pertaining to their work; and create central and departmental innovation steering committees (Du Chatenier, Verstegen, Biemans, Mulder & Omta, 2010; Hamzah et al. 2011; Swanberg, 2010; Siguaw, Simpson, & Enz, 2006; Zaineb, 2010).

Likewise, Birkinshaw & Duke (2013) propose four enablers that facilitate employees at the work place such as educational institutions to get involved in innovations. These include: 1) providing employees with space and time needed to think about innovation and additional resources that are needed in innovations. If this is implemented well, employees can use a certain percentage of their time to use their creative thoughts to come up with innovative ideas; 2) expansive roles, for example, enriching the initial job description so that employees can work outside their formal roles, thus, have more time to spend for creative thinking and innovative ideas; 3) competitions, for example, establishing of competitions so as to encourage action and to spur innovation; 4) open fora in which the institution management provides employees with information, and employees are in turn encouraged to suggest ways of improving institutional products or services. As such, this is considered as a very useful way to raise transparency and trust that is required for innovation to occur, While, simultaneously maintaining a personal touch with employees (Birkinshaw & Duke, 2013).

Most university teaching staff, for instance at Kyambogo, lack the competence to enable their universities: to provide research-led teaching that inspires students to achieve their potential; to generate new knowledge through research; to provide leadership in the economic, social and cultural development of the countries in question; and to develop a wide range of intellectual and professional skills needed to serve the complex needs of a modern society (Kasule et al. 2014). Moreover, in contemporary human resource management, it is widely acknowledged that there is a reciprocal relationship between meeting employees'

personal goals and the extent the employee in question contributes towards meeting the goals of the organisation (Coyle-Shapiro & Shore, 2007; Vance, 2006). However, most universities in African countries like Uganda, hardly meet the personal goals of their teaching staff and as such, this greatly compromises the quality of university education and other services provided to the students, business companies, industries and society as a whole (Mamdani, 2007; Ogom, 2007). In this light, the need to establish factors that influence innovation competence of university teaching staff cannot be overstated.

Basing on the conceptualisation that innovation is more or less a motivation-related activity, we explored the relationship between the Two-Factor Theory as advanced by Herzberg et al. (1959) and university teaching staff innovation competence. This theory is one of the most influential motivational theories regarding employee performance at the work place (Stello, 2010). However, we were cognisant of the fact that Herzberg's Two-Factor Theory, just like any other theory, has its own shortcomings. Among the criticisms of the theory and which is representative of the most cited ones include: assuming that happy employees produce more; overlooking contextual and situational variables; not accounting for individual personality traits that could provide a different response to a motivator or hygiene factor; and failure to acknowledge that what motivates one individual might be a de-motivator for another individual (Noell, 1976). Overall, Herzberg's Two-Factor Theory, despite its weaknesses, its enduring value is that it recognises that true motivation more often than not comes from within a person and not from external factors such as salary and good working conditions (Stello, 2010).

In the Two-Factor Theory, the first set of factors are termed as hygiene factors, which when provided, create a favourable environment for motivation and prevents job dissatisfaction. They are not an intrinsic part of a job, but they are related to the organisation conditions under which a job is performed. When an employer is unable to provide enough of these factors to the employees, there will be job dissatisfaction. However, if they are provided, they will not necessarily act as motivators. They will just lead employees to experience no job dissatisfaction. These include: organisation policies and administration; supervision; working conditions; interpersonal relations with superiors and subordinates; salary; job security; status; personal life; and employee benefits (Herzberg et al. 1959). Meanwhile, the second set of factors of the Two-Factor Theory are termed as motivating factors, these act as forces of job satisfaction by creating a positive and a longer lasting effect on employee's performance and are related to work itself. Adequate provision of motivating factors make employees feel happy with their jobs because they serve employees' basic needs

for psychological growth as well as motivating employees in their work. These include: sense of personal achievement; recognition for accomplishment; increased responsibility; growth and development opportunities; and challenging and stimulating work (Herzberg et al. 1959).

Herzberg's hygiene - motivational theory was considered appropriate for this study because it lucidly profiles key factors to consider if there is a desire to improve employee performance. The theory accentuates that employee motivation is attained when employees are faced with challenging, but enjoyable work where one can achieve, grow, and demonstrate responsibility and advance in the organisation. (Dartey-Baah & Amoako, 2011). This study upholds that the foregoing postulation can also be applicable to university teaching staff innovation enhancement. Hence, the need to examine the influence of hygiene - motivation factors as advanced by Herzberg on university teaching staff innovation competence.

This study was guided by the following research questions: 1. *Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?; 2. What relationship exists between the degree of importance of hygiene and motivation factors and university teaching staff perception of innovation competence enhancement?; and 3. Which of the hygiene factors or motivation factors are perceived as mattering more for university teaching staff innovation competence enhancement?*

5.3 Methods

5.3.1 Design of the Study

There is very little we know about the relationship between hygiene and motivation factors and university teaching staff innovation competence enhancement. As such, this study used an exploratory research design through a cross-sectional survey to gain insight regarding the degree to which university teaching staff perceive hygiene and motivation factors as being important to enhancing their innovation competence. Furthermore, to explore the relationship that exist between the degree of importance of hygiene and motivation factors and university teaching staff perception of innovation competence enhancement. This design is considered appropriate because it makes it possible to gain basic insights about prevalence of a phenomena, situation, problem, attitude or issue, leave alone, acting as a good starting point of departure for other methods to be used in understanding better the issue under investigation (Creswell, 2013; Kumar, 2011; Morse & Niehaus, 2009).

5.3.2 Context and Participants

A pointed out in the previous chapters, the study was conducted at Kyambogo University. The University in the last two years has been characterised with frequent staff strikes especially because of poor working conditions and poor remuneration (see e.g. Striking Kyambogo University lecturers want IGG to intervene. Available at: http://www.newvision.co.ug/mobile/Detail.aspx?NewsID=634492&CatID=1). The present study involved teaching staff at Kyambogo University and followed the same sampling technique applied to the teaching staff category as mentioned in the aforementioned preceding chapters. The university teaching staff were selected for this study because their job performance, just like any other type of employees in the different job fields, is largely dependent and/or affected by hygiene and motivation factors as advanced by the Herzberg et al. (1959). The university teaching staff can give relevant opinions regarding the importance of hygiene and motivation factors in enhancing their innovation competence. Senior Administrative Staff were not involved in the present study because it's principal aim was to establish the influence of hygiene and motivation factors on teaching staff innovation competence enhancement as perceived by the teaching staff themselves. The sample percentage distribution in terms of gender, highest academic qualification, years of university service, and teaching staff specialisation, can be found in Table 5.1.

Table 5.1: Sample Characteristics(n = 320)

Demographic variable	Percentage distribution
Gender	Male: 63.4%; Female: 36.6%
Age	24-30 yrs- 17.8%; 31-40 yrs- 27.2%; 41-50 yrs- 35.3%; 51 yrs and above- 19.7%
Highest academic qualification	Bachelor's degree- 9.4%; Post graduate diploma- 4.4%; Master's degree- 80%; PhD- 6.3%
Years of university service	1-5 yrs- 16.6%; 6-10 yrs- 38.1%; 11 yrs and above- 45.3%
Specialisation	Arts and Social Science- 37.8%; Management and Entrepreneurship- 22.8%; Science- 15.6%; Vocational Studies- 12.8%; Technology- 10.9%

5.3.3 Instrument

The university teaching staff responded to 28 close-ended questionnaire items along a five-point Likert scale ranging from strongly disagree = 1 to strongly agree = 5. The questionnaire was developed basing on the hygiene and motivation factors (for instance, working conditions for hygiene factors and career growth and development opportunities for motivation factors) as advanced by Herzberg et al. (1959). The purpose of the questionnaire was to establish the degree of disagreement or agreement on the importance of hygiene and motivation factors in enhancing university teaching staff innovation competence. In addition,

the questionnaire also aimed at establishing whether there was a significant relationship between the degree of importance of hygiene and motivation factors and university teaching staff perception of innovation competence enhancement. Krejcie & Morgan (1970) assert that in a research population of 420 people, it is considered sufficient to involve at least 201 participants. The present study met this criterion and tried to involve as many respondents as possible because in a survey research, the more people participate in the survey, the better for the results to be generalisable to the entire population. After checking for missing data, of the 390 questionnaires administered to the sample population, 320 questionnaires were returned and considered usable. This represents 82% response rate, thus, making the results generalisable to the sample population.

5.3.4 Data Analysis

Descriptive statistics were used to summarise and describe the participants' responses regarding their degree of disagreement or agreement on the importance of hygiene and motivation factors to enhance university teaching staff innovation competence (Table 5.2). The descriptive statistic values regarding the degree of disagreement or agreement on the importance of hygiene and motivation factors to enhance university teaching staff innovation competence in this study were construed as follows: 1.00-1.99 = Strongly Disagree; 2.00-2.99 = Disagree; 3.00-3.99 = Neither disagree nor Agree; 4.00-4.99 = Agree; 5.00 = Strongly Agree. ANOVA was performed to establish whether there are significant differences in means of the university teaching staff as per their specialisation regarding their degree of disagreement or agreement on the importance of hygiene and motivation factors to enhance their innovation competence. Thereafter, Pearson product-moment correlation coefficient test was conducted. The correlation results were interpreted according to the guidelines as advanced by Evans (1996) as follows: Very weak = 0 - .19; Weak = .20 - .39; Moderate = .40 - .59; Strong = .60 - .79; and Very strong = .80 – 1.00. This aimed at establishing whether there was a significant relationship between the degree of importance of hygiene and motivation factors and university teaching staff perception of innovation competence enhancement. In addition, the aforementioned statistical technique was used to establish which of the hygiene factors or motivation factors are perceived as mattering most for university teaching staff innovation competence enhancement (Table 5.3).

5.4 Results

In this section, the importance of hygiene and motivation factors to enhance university teaching staff innovation competence are reported. The correlation between the degree of importance of hygiene and motivation factors and university teaching staff perception of innovation competence enhancement; and which of the hygiene factors or motivation factors are perceived as mattering most for university teaching staff innovation competence enhancement, are also reported.

The descriptive statistics showed that the means of the respondents were more or less the same regarding the importance of hygiene and motivation factors to enhance university teaching staff innovation competence (Table 5.2). This was buttressed by the ANOVA results, which showed that there was no significant difference in the means of the respondents. It can be seen in Table 5.2 that the university teaching staff unanimously agreed that all the hygiene factors are important in enhancing university teaching staff innovation competence. However, results in Table 5.2 reveal that the type of policies and administration prevalent in an institution were ranked higher than other hygiene factors as being important in enhancing university teaching staff innovation competence. Similarly, the results in Table 5.2 also revealed that the university teaching staff in unison agreed that all the motivation factors are important in enhancing university teaching staff innovation competence. Nonetheless, results in Table 5.2 indicate that giving increased responsibility to staff was ranked higher than other motivation factors as being important in enhancing innovation competence.

Table 5.2: Means and Standard Deviations Regarding Disagreement or Agreement on the Importance of Hygiene and Motivation Factors to Enhance University Teaching Staff Innovation Competence (N = 320) (M = Mean; SD = Standard Deviation; Range of agreement scale: 1 = Strongly Disagree; 5 = Strongly Agree)

Hygiene Factors	**M**	**SD**	**Motivation Factors**	**M**	**SD**
Policies and administration	4.49	.60	Increased responsibility	4.46	.51
Supervision	4.47	.63	Recognition for accomplishment	4.43	.53
Job security	4.39	.64	Challenging and stimulating work	4.40	.51
Employee benefits	4.34	.52	Growth and development opportunities	4.40	.52
Salary	4.31	.67	Sense of personal achievement	4.29	.54
Status	4.30	.62			
Interpersonal relations with colleagues	4.30	.67			
Working conditions	4.30	.68			
Personal life	4.27	.59			

Relationship between the Degree of Importance of Hygiene and Motivation Factors and University Teaching Staff Perception of Innovation Competence Enhancement

Pearson product-moment correlation coefficient test results in Table 5.3 indicate that the degree of importance of all the hygiene and motivation factors have significant relationship with university teaching staff perception of innovation competence enhancement, although, the degree of the strength of the relationship varied from factor to factor as illustrated below. Regarding the relationship between the degree of importance of hygiene factors and university teaching staff perception of innovation competence enhancement results in Table 5.3 reveal that: institutional policies and style of administration, r = .83**, n = 320, p < .05, r^2 = .69; working conditions, *r = .87**, n = 320, p < .05*, r^2 = .76; salary paid to the employee , *r = .88**, n = 320, p < .05*, r^2 = .77; job security for the employee, *r = .86**, n = 320, p < .05*, r^2 = .74; and employee benefits, *r = .82**, n = 320, p < .05*, r^2 = .67, had a very strong relationship.

Meanwhile, the type of supervision and performance appraisal in the institution, *r = .68**, n = 320, p < .05*, r^2 = .46, had a strong relationship. This was followed by: interpersonal relations with superiors and other subordinates, *r = .40**, n = 320, p < .05*, r^2 = .16, which had a moderate relationship, while status accorded to staff, *r = .18**, n = 320, p < .05*, r^2 = .03 and staff personal life, *r = .16**, n = 320, p < .05*, r^2 = .02, had a very weak relationship. Concerning the relationship between the degree of importance of motivation factors and university teaching staff perception of innovation competence enhancement, results in Table 5.3 show that: providing staff with career growth and development opportunities, *r = .83**, n = 320, p < .05*, r^2 = .69; and assigning staff challenging and stimulating work, *r = .91**, n = 320, p < .05*, r^2 = .83, had very strong relationship. Meanwhile, recognising accomplishment of staff, *r = .69**, n = 320, p < .05*, r^2 = .48; and giving staff increased responsibility, *r = .79**, n = 320, p < .05*, r^2 = .62, had a strong relationship, while drive for achievement, *r = .12**, n = 320, p < .05*, r^2 = .01, had a very weak relationship.

Table 5.3: Correlation Results between the Degree of Importance of Hygiene and Motivation Factors and University Teaching Staff Perception of Innovation Competence Enhancement (N = 320)

Two-Factor Theory	**Correlation Coefficients within the Variables and Innovation Competence Enhancement**													
Hygiene	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Policies & administration	.83**													
2. Supervision	.31**	.68**												
3. Working conditions	.13**	.24**	.87**											
4.Interpersonal relations	.08	.14**	.70**	.40**										
5. Salary	-.03	.16**	.31**	.34**	.88**									
6. Job security	-.04	13**	.31**	.28**	.82**	.86**								
7. Status	.09	12**	.26**	.26**	.33**	.35**	.18**							
8. personal life	.04	17**	.34**	.34**	.57**	.47**	.67**	.16**						
9. Employee benefits	.09	.09	.25**	.14**	.30**	.43**	.28**	.40**	.82**					
Motivation														
10. Achievement	.12**	.08	23**	.12**	.23**	.20**	.34**	.29**	.60**	.12**				
11. Recognition for accomplishment	-.06	-.01	-.01	.01	.03	.04	.04	-.05	-.02	.08	.69**			
12. Increased responsibility	-.10	-.04	.01	.05	.05	.04	.03	.05	-.01	.08	.69**	.79**		
13. Growth and development	.16**	.07	.06	.06	.04	.02	.14**	.12**	.09	.05	.13**	.17**	.83**	
14. Challenging and stimulating work	.11**	.22**	.23**	.13**	.11**	.10	.16**	.21**	.12**	.09	.06	.09	.76**	.91**

*Correlation is significant at the 0.05 level (2-tailed)

5.5 Discussion

The present study findings reveal that much as hygiene and motivation factors are important in influencing university teaching staff innovation competence, some factors are more influential than others. For instance, institutional policies and style of administration, working conditions, salary paid to the employees, job security for the employees and employee benefits, are perceived as the most influential hygiene factors for university teaching staff innovation competence enhancement. Meanwhile, providing staff with career growth and development opportunities and assigning them challenging and stimulating work, are perceived as the most influential motivation factors for university teaching staff innovation competence enhancement. The study results concur with Kang, Morris, & Snell's (2007) assertion that in order for the institution to be effective and efficient, there must be coherence between the institution's vision, mission and goals, and the management practices and strategies that it adopts.

Moreover, it is widely acknowledged that staff innovation competence enhancement, more often than not, is contingent on quality management initiatives (Wang, 2013). This is buttressed by Atuahene-Gima (1996) who avows that one of the most important determinants of new product or service success involve managerial behaviour. This, therefore, implies that university managers should create an environment in which innovative behaviour of teaching staff is stimulated (Burgelman, 1986). The finding of this study further agrees with several authors such as: Ajayi et al. (2011); Aktar et al. (2012); De Tienne & Mallette (2012);Gohari, Ahmadloo, Boroujan, & Hosseinipour (2013); and Zaineb (2010) that remuneration, cordial

relationship between authority and staff, recognition, flow of information, promotion, career growth and development opportunities, and good working conditions, among other things, are critical in enhancing university teaching staff innovation competence levels.

The study findings also concur with Swanberg (2010) who argues that if organisations want to enhance the innovation competence of their employees, they should: have effective leadership and supervision; accord staff opportunities for learning and advancement; promote work place flexibility; have a culture of inclusion; and have a competitive compensation and benefits scheme. The study findings support previous research work such as the Inducements-Contributions Model (March & Simon, 1958) which states that in an employment relationship, an organisation offers inducements to the employee in return for his/her contributions. Coyle-Shapiro & Shore (2007) avow that individual employees are satisfied when there is a greater difference between the inducements offered by the organisation and the contributions given in return. We espouse the mind of the foregoing authors and advance that if universities, regardless of context, want to have teaching staff with unquestionable innovation competence, they have to put in place inducements for staff to start doing things differently in improved and/or new ways in an attempt to meet the ever changing university service demands and challenges. The present study findings also concur with the recent research of Ghazi, Shahzada & Khan (2013) which affirms that both hygiene and motivation factors are important in enhancing university teaching staff job performance.

In view of the results herein which indicate that hygiene and motivation factors such as: institutional policies and administration; working conditions; salary; job security; employee benefits; career growth and development; and challenging and stimulating work respectively, have a very strong influence on university teaching staff innovation competence. Management of Kyambogo University is hereby called upon to sufficiently address these factors, if they want the institution to deliver education and other services that meet the needs and expectations of students and the various labour sectors in Uganda. This agrees well with Ghazi et al. (2013) assertion that university management should endeavour to make sure that the university teaching staff are provided favourable working environment, up-to-date facilities in their offices and encouraging environment in which they may feel comfortable, cheerful and motivated for their work. This is a prerequisite for the university teaching staff to come up with ways of improving their present university service performance. Leave alone, generating new ideas to effectively meet the ever changing global knowledge economy demands.

5.6 Limitations and Suggestions for Future Research

Although this study represents an important step in having some useful insights regarding the influence of hygiene and motivation factors on university teaching staff innovation competence levels, it has some limitations. The study did not explore the impact of the motivation and hygiene factors on the current teaching staff's performance. Also, the study was exploratory in nature, had only one contact with the study population, and relied on respondents' perceptions regarding how influential hygiene and motivation factor in enhancing university teaching staff innovation competence. As such, the actual influence of the variables under investigation on university teaching staff innovation competence is hard to tell. In this light, we suggest a replication of the study in a similar or different context using before-and-after study designs (Kumar, 2011). For instance, future research could consider conducting a comparative study involving university teaching staff from developed countries. This would give invaluable insights regarding the extent to which the findings of this study could universally be generalised. In addition, this study in terms of content scope was limited to exploring the influence of hygiene and motivation factors on university teaching staff innovation competence. Hitherto, university teaching staff innovation competence can be influenced by many other factors like: socio-economic background; experience; intelligence, culture, etc. Therefore, further research needs to be carried out to exhaust all the possible variables that could be important in influencing university teaching staff innovation competence.

5.7 Conclusion

Based on the findings of this study, the following conclusions are drawn: hygiene and motivation factors as advanced by Herzberg et al. (1959) are perceived as being important in influencing university teaching staff innovation competence enhancement. However, this study has revealed that within the hygiene and motivation factors, there are those that matter more than others when it comes to enhancing university teaching staff innovation competence. It can, therefore, be stated that university management and the human resource management department, should pay attention to the factors which university teaching staff seem to value most in the employment relationship. These include: policies and style of administration; working conditions; salary; job security; employee benefits; growth and development opportunities; and challenging and stimulating work. In this light, as matter of urgency, Kyambogo University should endeavour to: put in place favourable policies and administration that encourages a culture of innovation; put in place good working conditions

both in terms of work processes and physical facilities and materials needed to execute university tasks; and lucratively reward teaching staff both in financial and non-financial terms, among others.

This study espouses the view that there is an array of factors that impacts the innovation competence of professionals other than the hygiene and motivation factors, which should also be given due attention. However, in a climate of higher education reform in Uganda, meeting of the teaching staff hygiene and motivation needs adequately precedes provision of relevant and high quality teaching and learning, research, innovation and community development. This is based on the presupposition that a well-motivated workforce is critical to the realisation of organisational efficiency and effectiveness. The present study indicates that both hygiene and motivation factors do matter to teaching staff at Kyambogo University when it comes to innovation competence enhancement.

Chapter 6

General Discussion and Conclusion

Abstract

This dissertation addresses innovation competence of teaching staff of a Ugandan University. It started with a review of the theory on innovation competence of teaching staff in higher education, and what was observed was that there was little literature on this theme, especially not when combined with the notion that this study is situated in a developing country. Therefore local stakeholders were invited to assess the importance of innovation competencies which emerged from the literature review for the local situation. Next, a study was conducted on the perceived innovation competence levels of teaching staff of Kyambogo University. It appeared that these competence levels need improvement. Next, a study was conducted to look into the participation in perceived importance and effectiveness of activities for teaching staff innovation competence development. It appeared that participation in professional innovation competence development activities was limited, and that certain activities were perceived as more effective than others. An important question was why the professional development activities aimed at improving innovation competence were not taken up to a higher level. Therefore, a last study was conducted on essential human resource conditions for effective innovation competence development. The study focused on hygiene and motivation factors. This chapter summarises and combines the results of the studies described in the previous chapters. Following an elaboration of the main findings, the relationship between university teaching staff innovation competence domains and associated competencies, and effective university performance towards socio-economic development, is explained and emphasised. Besides, universities are now seen as crucial national assets for addressing many policy priorities as well as creating and disseminating knowledge and skills aimed at improving the quality of people's life. Subsequently, lessons drawn from the competence theory and research and the study's general contribution, are presented. Similarly, suggestions for future research and recommendations for policy and practice, are presented.

6.1 Introduction

This chapter summarises and combines the results of the studies described in the previous chapters. Accordingly, since the results of each study are discussed consecutively in chapters 2 to 5, respectively, this chapter discusses the main findings in a broader perspective. The chapter is divided into the following sections: section 6.2 provides the main findings addressing the research questions; section 6.3 presents and discusses the research findings in a broader perspective; section 6.4 provides the practical and theoretical contributions of this study; section 6.5 presents study limitations and an outlook for future research; and section 6.6 provides recommendations for policy and practice

6.2 Main Findings

This thesis explored the necessary conditions for developing university teaching staff innovation competence so that they can be enabled to provide university education and services that meet the needs and expectations of students, employers and society as a whole for now and for the future. In this section, the results of the empirical studies that comprise this thesis are presented and discussed.

6.2.1 Required University Teaching Staff Innovation Competencies

In the event that higher education, particularly at the university level, worldwide has moved from periphery to the centre of government agendas. Universities are now required to do more in fostering sustainable development and improvement of people's quality of life. This however, begs the question, do the academics in universities e.g. at Kyambogo have the capability to enable the universities meet the needs and expectations of students, employers and society as a whole in the 21st century and beyond. Accordingly, this study was guided by the ensuing question: *Which innovation competencies do university teaching staff require?* The study results showed that there are five competence domains university teaching staff require. These competence domains and associated competencies have been presented and elaborated in chapter 2 of this thesis. In sum, the competence domains include:

Innovating

The present study findings revealed that the ability to innovate and to inspire others in the field of innovation is an important competence that should be possessed by university teaching staff. This competence domain has to do with teaching staff's possession of innovation mind-set and behaviours and the ability to put these in practice to improve service or product provision. The competencies associated with this competence domain, include the

teaching staff's desire and concern to proactively take actions to improve one's knowledge and innovation skills; and the ability to come up with new things in area of speciality. Besides, the need to develop innovation competence of university staff, if Ugandan universities, such as Kyambogo, want to transform themselves to be able to meet the present and future needs and expectations of students, employers, and society in general, cannot be overstated.

Knowledge Society Facilitating

The ability of the teaching staff to create and disseminate knowledge and skills needed by learners and society, and to act as information consultants in academic and general societal issues, is another important competence domain that should be possessed by university teaching staff. The competencies associated with this competence domain comprise teaching staff's ability and willingness to: work with others without prejudice in creating and disseminating the knowledge needed by students to be relevant and productive at work and society in general; cater for students' individual differences during the instructional process; and authentically demonstrate to the students the effect of a globalised knowledge society. This is critical because these days and in the future, knowledge is a key determinant of wealth creation and well-being for individuals and nations. This, therefore, implies that university teaching staff in developing countries like Uganda should actively engage in creating and disseminating knowledge aimed at addressing many of the most urgent challenges facing the country, for instance, disease, food insecurity, poverty, poor governance and environmental degradation.

Collaborating and Networking

The study findings also revealed that the ability of the teaching staff to work well with and through teams, partnerships and networks to improve service or product provision, is another important competence that should be acquired. The competencies linked to this competence domain include the teaching staff's ability and willingness to: build and or maintain ethical relationships or networks at the place of work; work co-operatively within diverse teams at the place of work; and partner with internal and external education stakeholders to improve service or product provision. Given the fast rate at which new knowledge is created, university teaching staff ought to be actively engaged in a wide collaboration and network with colleagues in the world of academia. The need for university teaching staff to collaborate and network with their colleagues in the same and/or different disciplines at a global level to extend the frontiers of knowledge, and also to pass on

collaborating and networking knowledge and skills to their students, cannot be exaggerated. This is rooted in the supposition that what distinguishes high-performing educational institutions from their lower performing counterparts is effective institution-wide collaborative professional learning and network. As such, this thesis buttresses the view that even highly skilled professionals need work structures which allow them to expand their abilities.

Higher Education Designing and Developing

The study findings indicated that the ability of the teaching to determine and/or envisage the present and future knowledge and skills that students require, thus, structure study programmes that are responsive to the student, employer and societal needs and expectations, is yet another important competence that should be possessed by the teaching staff. The fundamental competencies associated with this competence domain include the teaching staff's ability and commitment to: structure learning experiences that equip students with the knowledge and skills to live sustainably in the global economy; authentically structure content that equips students with the knowledge and skills to be productive and innovative at the place of work and society as whole; conduct research in areas of speciality; and design activating educational materials. Basing on the realisation that most university education curricula and the instruction process in most Sub-Sahara African countries is deemed obsolete, it is critical that academics, for instance, at Kyambogo University acquire unquestionable competence to design and develop relevant and high quality university education programmes.

Entrepreneurship

The findings of this study further showed that the possession of an entrepreneurial mind-set, behaviour and undertaking of commercial and/or non-commercial ventures by the teaching staff, is another important competence that should be acquired by the university teaching staff. The essential competencies in this competence domain include the ability of the teaching staff and commitment to: do and/or assist others be self-driven and open-minded towards exploring business opportunities in area of specialised knowledge; and do/or assist others do things better as well as searching for new ideas in product or service provision. This thesis espouses the view that teaching staff in higher education institutions should walk the talk by demonstrating the required entrepreneurial behaviour, for example, opportunity recognition, taking initiative, and risk management.

Consequently, they will inspire their students into the world of entrepreneurship, whether for commercial or non-commercial purposes, considering that universities are increasingly getting challenged to prepare students with entrepreneurship knowledge and skills that can enable them thrive in life and the world of work. It is irrefutable that the rapidly changing world of work characterised by economic crisis and downsizing demands that universities provide career-focused university education and training with a strong component of entrepreneurship knowledge and skills at the undergraduate level. Besides, the 21st century graduates, in the present and future, undoubtedly have to deal with challenges we have encountered never before, thus the need for education and training institutions to have teaching staff with the competence to equip students with creativity and entrepreneurship skills which are deemed as hallmarks for individuals, organisations and nations to survive and/or thrive.

6.2.2 Status Quo of University Teaching Staff Innovation Competence at Kyambogo University

After getting insights into the competence domains and accompanying competencies university teaching staff require to effectively perform their duties, the second research question of this thesis was*: What is the current status of teaching staff innovation competence at Kyambogo University?* The results of the exploratory study, according to the teachers and SAS, revealed that teaching staff performance on the aspect of: innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship, could not be considered as satisfactory at Kyambogo University. The study results showed that there were significant differences regarding the extent to which the teaching staff possess the five competences profiled herein (see Chapter 2). For instance, innovating and knowledge society facilitating competence domains, are least possessed by the teaching staff at Kyambogo University than the other domains presented in this thesis. The findings in chapter 3 of this thesis, therefore, suggest that in order to realise meaningful university education reforms in Uganda, due attention should be paid to developing the capacity of university academic staff to do their work in improved and/or new ways.

6.2.3 Professional Development Activities for University Teaching staff Innovation Competence

The findings in chapter 3 of this thesis provided insight into the current status of teaching staff's innovation competence levels. In this light, the third research question of this thesis was: *Which professional development activities are perceived as being important for Kyambogo University teaching staff innovation competence?* The need to support teacher competence development so as to realise better learning outcomes in any educational system cannot be overemphasised. The present study results revealed that participation in formal and informal professional development activities, all innovation-oriented (see chapter 4, Table 4.3), were perceived by the deputy vice-chancellor - academic affairs, the academic registrar, faculty deans, departmental heads, and the teaching staff, as important professional development activities that can be used to enhance teaching staff capability to execute their university tasks in improved and/or new ways.

The study findings in chapter 4 suggest that there are a number of important formal and informal professional development activities university teaching staff ought to engage in if they are to deliver university education and services that meet the present and future needs and expectations of students, employers and society. The results revealed that both the formal and informal innovation-oriented professional development activities are accorded more or less the same status regarding university teaching staff innovation competence enhancement. However, it is worth noting that in some cases making a distinction of what is regarded as a formal or informal innovation-oriented professional development activity is problematic. This is based on the presumption that an informal activity can evolve into a formal one, the moment it takes on the properties of a formal activity. This, therefore, implies that flexibility must be exercised in determining what formal and informal innovation-oriented professional development activities.

6.2.4 Relationship between Hygiene and Motivation Factors and University Teaching Staff Innovation Competence Enhancement

In recognition that professional development is not the sole variable that impacts university teaching staff innovation competence, the fourth research question of this thesis was: *Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?* The results from the exploratory study revealed that within both the motivational and hygiene factors, some factors (e.g. being assigned challenging and stimulating tasks, good salary, favourable working conditions and

job security) are perceived as being more important than other factors (e.g. personal achievement, personal life issues - family obligations and status accorded by the institution) when it comes to teaching staff innovation competence enhancement (see chapter 5). However, on the whole, the study results indicated that both hygiene and motivation factors do matter to teaching staff at Kyambogo University when it comes to innovation competence enhancement. This means that if university management want to promote teaching staff innovation competence, they should: assign staff with challenging and stimulating tasks; provide staff with career growth and development opportunities; enlarge and/or enrich their jobs; and recognise staff for accomplishing the given tasks; pay them good salary; provide good working conditions; and provide job security.

This finding in chapter 5 suggests the need for balance between an employee's inputs (for example, hard work, skill level, creativity, innovation, enthusiasm) and an employee's compensation (in financial terms – e.g. salary, and non-financial terms – e.g. recognition). This implies that for the educational policy makers, managers and other stakeholders to demand peak performance from the university teaching staff, due consideration should also be given to the factors that influence the teaching staff's work. Short of this, it can fairly be deduced that teacher job peak performance hardly occurs. The findings in chapter 5 provide invaluable insights regarding the institutional and personal factors that need to be considered if universities want to enhance the innovation competence of their teaching staff. However, since these results are mainly based on university teaching staff perceptions, there is a need for experimental and/or longitudinal research to establish the extent to which each of the hygiene and motivation factors influence university teaching staff innovation competence enhancement.

6.3 Research Findings in a Broader Perspective

The concept of competence

The concept of competence, despite its different conceptualisations and associated criticisms, is increasingly being used to map requirements for human resource management and development practices. Competence in general terms can be perceived as the key capability of professionals in work and citizens in society to effectively perform tasks to cope with profound change and to contribute to it (Woldman, Runhaar, Wesselink & Mulder, 2014). Competence development is seen as a learning process leading to human resource and capacity development, which should result in sustainable socio-economic development and performance improvement. In the ever changing global knowledge-based economy, the need

for organisations to enable their employees to acquire the competencies they need to face the diversity and complication of their present and future tasks successfully cannot be overstated (Hsieh, Lin & Lee, 2012; Mulder, 2014).

Competence profiles

Undeniably, there is increasing interest to develop competence profiles for the different professionals in several labour sectors. As such, Kibwika (2006) has identified essential competencies agricultural professionals need to engage with farmers in an innovation system; Karbasioun, Mulder & Biemans (2007) have developed a competence profile for agricultural extension instructors; Du Chatenier, Verstegen, Biemans, Mulder & Omta (2010) have profiled competencies for professionals working in open innovation teams; and Wiek, Withycombe & Redman (2011) have reported key competencies in sustainability. However, in the university sector, little is known regarding the competencies teaching staff require to effectively perform their present and future university tasks in improved and/or new ways. As such, this thesis is set to contribute towards addressing the literature gap that exists regarding innovation competence development of teachers in higher education.

Higher education as catalyst for development

Notwithstanding the historical, political, economic, social and environmental factors as key determinants of a country's level of development, it is widely accepted that higher education, especially university education, can be used as a catalyst for industrial and socio-economic development (Bailey, Cloete & Pillay, 2007; Brennan, King & Lebeau, 2004). In view of this, higher education is no longer accessible only to the elite, but has become a fundamental right for humanity (Naylor, 2012; World Bank, 2000). Accordingly, in an increasingly knowledge-driven society, more and more people seek higher education as the hope for a better future, the key to good jobs and careers and to meaningful and fulfilling lives (Duderstadt, 2007). This is in line with the assertion by Mulder (2010) that in the near future over 50% of employment will consist of jobs which require higher education. This resonates well with the view that continuing development of new skills and knowledge throughout one's life, is not only valuable for the individual, but also essential for the country's economy as well (Brown, 2009).

Challenges in higher education

It is worth noting that the higher education sector is in a particularly challenging situation in Sub-Saharan African countries like Uganda, where poverty and its consequences,

including hunger, illiteracy, uncontrolled population growth, a deteriorating environment, epidemics such as HIV/AIDS and Ebola, have dire consequences on people's daily lives (Kasule et al. 2014). It is incontestable that science, technology, engineering and innovation, spearheaded by the higher education sector, play a fundamental role in achieving sustainable development, economic growth, poverty eradication, enhancing global competitiveness, and improving people's quality of life in any given country across the globe. This is based on the proposition that these areas are engines of integral development since they are regarded as main avenues for generating employment and well-being through innovation and the commercialisation of new products and services, leave alone helping in reducing poverty, improving education, health, nutrition and trade; and being vital for building human resource capacities that are essential in the 21st century.

University management imperative

In view of the aforementioned observation, the Government of Uganda espouses the view that it is through science, technology and innovation that Uganda can develop, and as a result, improve the quality of life of its citizenry in the competitive global knowledge-based economy (Ministry of Finance, Planning and Economic Development, 2009). Besides, as earlier mentioned, knowledge society is the new mode of human existence in which the production, recording, processing, and retrieving of information in organised networks play a central role. (Castells, 1996). As such, in both developed and developing countries, education is the key to sustainable national development and improvement of people's quality of life. With this understanding, this thesis espouses the view that education across the globe should extend beyond formal learning (based in traditional educational institutions – schools, universities, etc.) into non-formal learning to support a knowledge economy (UNESCO, 2005). This, therefore, implies that the role of a university teaching staff as an information consultant or counsellor, these days and in the future, can no longer only be confined in the classroom or on the institution campus.

Stimulating high performance

As stated in the introduction chapter, enormous literature in the field of higher education indicate that the quality of university education in most African countries has a low rating (Altbach, Reisberg & Rumbley, 2009; Mohamedbhai, 2014). For instance, the current university education system in Uganda emphasises theoretical academic work, but with little depth of applied science, engineering and technical skills, which are central to technological innovation, which is one of the pillars of socio-economic development and quality

improvement of people's quality of life (Baryamureeba, 2013; Businge, 2014; Kasozi, 2003; Kirunda, 2014). This is detrimental to Uganda's development aspirations because a lot of literature indicates that the strength of any nation lies in the knowledge and skills of its people that can be acquired through education, training and practical application in the various fields of science, technology and innovation. However, it is important to note that in Uganda, just like in many other African countries, there are several factors that hinder the provision of good quality higher education. Thus, hampering sustainable national development and improvement of people's quality of life. Such factors include, among others, historical, cultural, religious and social issues. Others are lack of democracy, corruption, poor infrastructure, lack of adequate funds, poor governance, rapid population growth, and poor teacher quality (Bunoti, 2010). These factors need to be addressed if poor African countries are to be transformed from a peasant to a modern and prosperous country within the coming few decades, just as Uganda's Vision 2040 suggests.

Further investigate teaching staff competence needs

This thesis espouses the view that it is through good quality education that the numerous problems facing developing countries can be mitigated. With this in mind, it is vital to realise that teaching staff competence needs identification precedes sound education reform, thus the need to be given top priority if we want to realise better student learning achievement and outcomes (Broad & Evans, 2006; Fullan, 2007; Rowe, 2003). Besides, no individual, community or nation can be better than the quality of its education system, which to a significant extent, is dependent on the quality of teachers therein. This corroborates King's (2013) assertion that quality education is what brings forth manifestable development of any country.

Overcome routine

Irrefutably, in Uganda, there is a tendency of doing the same things routinely. This kind of culture inevitably jeopardises pragmatic decisions and actions that would be used to foster national development and the improvement of people's quality of life. Moreover, in the mind of Albert Einstein (1879-1955), it is considered insanity to keep on doing the same thing over and over again and expect to get different results. In light of the foregoing observation, it was deemed prudent to examine ways of developing the innovation competence of university teaching staff (cluster of separate capacities and skills to come up with ideas/ways of improving the existing university education system) if we want universities to be and/or remain relevant and productive in the knowledge and innovation explosion era.

Innovation competence as one factor in effective higher education

This thesis does not in any way seem to suggest that developing innovation competence of teaching staff in institutions of higher learning is the only aspect that has to be addressed for Uganda's higher education system to be effective. Instead, it buttresses the view that availability of a high quality teaching staff force in higher education institutions precedes delivery of high quality teaching and learning, research, innovation and community development services (McAleese et al. 2013; Waldron & Mcleskey). As earlier mentioned in chapter 1, innovation has different facets and meanings. This, subsequently, leads to variation in innovation competence profiles in different labour sectors. Nonetheless, the underlying notion in innovation competence literature is the individual's capability to make a product or service better, either through modification, or completely coming up with a new thing (see e.g. Du Chatenier, 2011; Kibwika, 2006; Watts et al. 2013).

Innovation and technology

Increasingly, innovation is being professed as essential for individuals, organisations, and countries and firms to survive and/or and thrive in today's highly competitive global economy, leave alone being a fundamental aspect for development and for addressing social and global challenges (Kasule et al. 2014). Put differently, innovation holds the key, both in developed and developing countries, to employment generation and enhanced productivity growth through knowledge creation and its subsequent application and diffusion (OECD, 2010). As such, there is need to ensure that Ugandan universities like Kyambogo have adequate teaching staff with infinite innovation competence to help the country evolve from an agrarian to industrial and then to a knowledge-based economy. This can be realised through provision of relevant and high quality higher education. In order to remain relevant and up to date, university teaching staff in Ugandan universities, such as at Kyambogo, ought to be competent at using current technologies (e.g. internet and social media networks) to formally and informally create and disseminate knowledge to benefit a wider society (McClellan, 2010).

The societal role of universities

The teaching staff innovation competence profile as presented in chapter 2, innovation-oriented professional development activities, and institutional and personal factors that enhance teaching staff innovation competence presented in chapter 4 and 5, provide useful insights in higher education management and development practices. This is based on the presumption that higher education institutions, especially universities as traditional

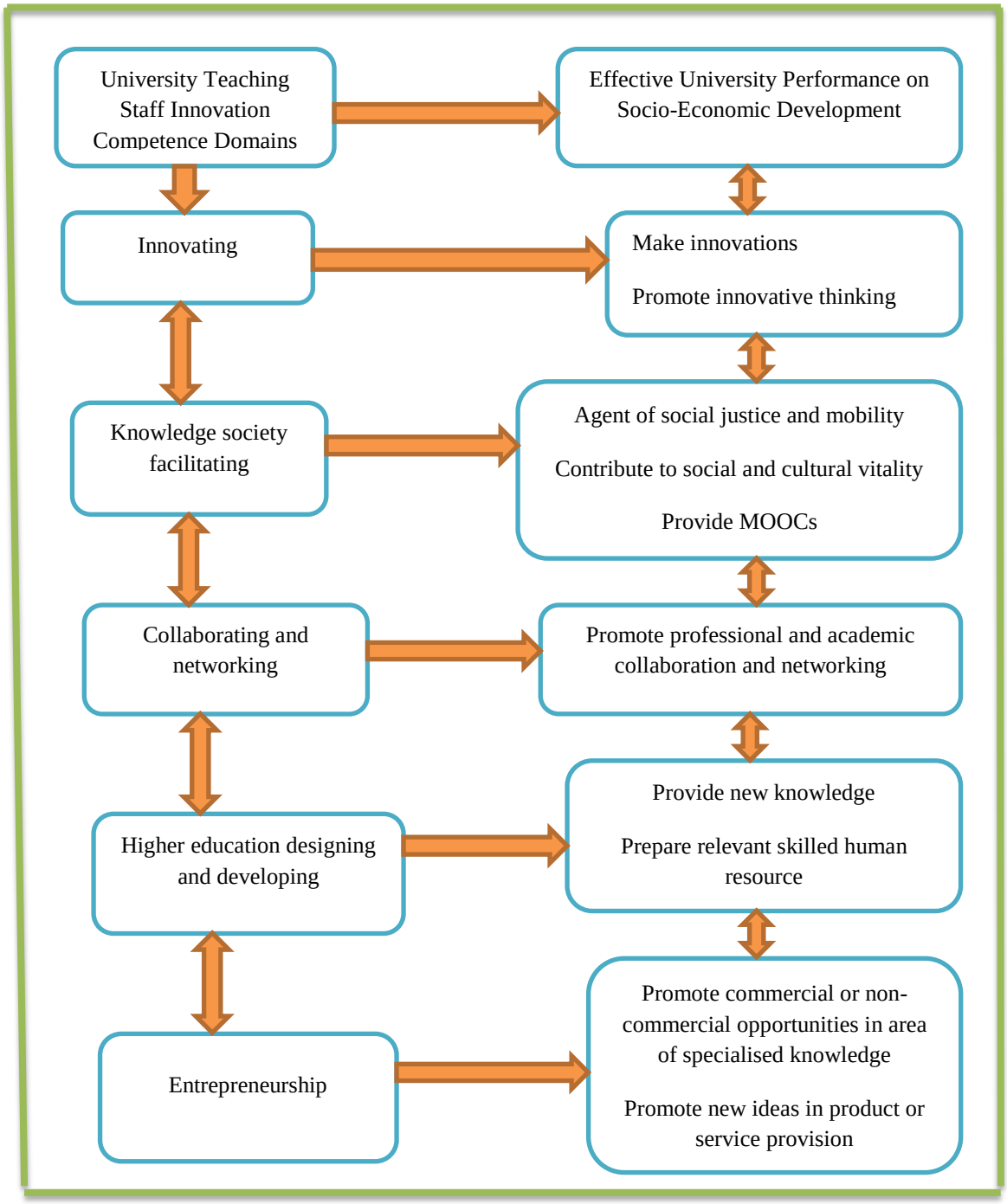
knowledge creation and dissemination institutions (through science, technology, innovation and quality teaching), are expected to play a significant role in addressing social, political, economic and environment problems facing humankind. To this effect, higher education institutions are under increasing pressure to do more in promoting the well-being of individuals and communities (Altbach, Reisberg & Rumbley, 2009).

Innovation competence and performance

As is shown in this dissertation, there is little or no scientific literature regarding the competencies teaching staff need in meeting the innovation demands and/or expectations in universities. As such, the findings of this thesis can serve as a point of reference for university managers, policy makers and other stakeholders who desire to reform university education. This is attributed to the fact that putting in place a competent university teaching staff force as earlier mentioned is key for the realisation of high quality university education that can spur socio-economic development (Kasule et al. 2014; Kropff, 2014). This dissertation studied the perceived importance of innovation competence, the actual level of innovation competence, the participation in and perceived effectiveness of innovation competence development activities, as well as the perceived influences of human resource management factors on innovation competence development. The study did not go into actual innovation performance of the University and it's staff.

As a suggestion for further research, a link is proposed between competence domains as defined and actual innovation activities which are being carried out by and within the university. For instance: what actual activities does the university undertake to establish socio-economic development, or what innovations are actually being implemented, and in how innovation thinking is actually promoted. The advantage of such further research is that much more information would be revealed about the actual activities regarding and results of innovation processes. As a suggestion, the potential relationship between the university teaching staff innovation competence framework and effective university innovation performance towards socio-economic development is represented in Figure 6.1.

Figure 6.1: Relationship between University Teaching Staff Innovation Competence Framework and Effective University Performance towards Socio-economic Development



6.4 Study Limitations and Outlook for Future Research

Scope of the study

In this section, the limitations of the study are presented and more areas of future research are suggested. Given the exploratory nature of this research and the scope and size of its sample, the results outlined herein are tentative in nature. Since the study involved only a group of university Senior Administrative Staff (SAS), teaching staff and students from one university, it is problematic to generalise the results to all Ugandan higher education. Also, due to time constraints, the study used a relatively small sample involving SAS, teaching staff and students, to validate the university teaching staff innovation competence profile generated from the literature study (see chapter 2). It would be good if a national study involving a larger number of universities would be conducted, to validate the university teaching staff innovation competence profile presented in this thesis. The validation study could also be scaled up by including other developing countries. Accordingly, this would provide invaluable insights regarding the validity and reliability of the results of this thesis.

Subjectivity

Another limitation of this thesis is that the self-assessment method, which is associated with the problem of subjectivity, was used in order to get insight regarding the teaching staff innovation competence levels at Kyambogo University. In order to counteract the aforementioned, the problem of subjectivity and multiple data sources (students, SAS) regarding the teaching staff innovation competence levels were used. Additionally, another limitation associated with this study is that innovation competencies of a particular university teacher were not investigated. This study instead investigated innovation competencies of university teachers at a general level. In this light, there is a need in the future to use a kind of 360 degree feedback system so as to get a better picture of the level of innovation competence of each university teacher.

Ecological validity

The profiled innovation-oriented professional development activities in this thesis, deemed important to enhance university teaching staff innovation competence, were based on perceptions of the study respondents from an exploratory study (see chapter 4). It is worth noting that in the exploratory interviews, the teaching staff leaders and university SAS relied on their experience of either having attended their education in developed countries and/or having attended international conferences, seminars, symposia, workshops, etc, to suggest professional development activities deemed important in enhancing university teaching staff

innovation competence. As such, this in one way or the other is a limitation of this study because the suggested innovation-oriented professional development activities in exploratory interviews, later confirmed in a questionnaire survey involving university SAS and teaching staff, were speculative and not a reality in Ugandan universities.

Replication

Subsequently, there is need to replicate the study in a different context (preferably a developed country where such innovation-oriented professional development activities exist), and through using experimental and/or correlation studies to measure the impact of innovation-oriented professional development activities such as: accredited education and training courses; conferences, workshops, seminars, symposia, and brainstorming sessions; individual and/or group action research; coaching and mentoring programmes; membership to professional groups and networks; and simulation games on university teaching staff innovation competence enhancement. For instance, such a study could correlate university teacher participation in innovation-oriented professional development activities and innovation competence levels in the western world. Accordingly, this could be used as a basis to validate the findings of this thesis.

Perceptual data

Furthermore, this thesis relied on the respondents' perceptions to determine the relationship between hygiene and motivation factors on university teaching staff innovation competence enhancement (see chapter 5). This makes the validation and reliability of the findings regarding the influence of institutional and personal factors, as advanced in Herzberg's Two-Factor Theory on university teaching staff innovation competence enhancement, problematic. There is, therefore, a need to use experimental and longitudinal study designs that can actually indicate effect on the variables under investigation. For instance, the experimental study could use university teaching staff, say, from a developed country as a control group and university teaching staff from a less developed country as the experimental group. This kind of study is likely to yield invaluable insights regarding how teaching staff in different contexts are actually influenced by each of the hygiene and motivation factors when it comes to innovation competence. Another suggestion for future research is the need to establish the relationship between the competencies of university teachers and the development and improvement of the citizens of a country.

6.5 Theoretical and Practical Contribution of the Study

Theoretical Contribution

This thesis presents a competence profile for the 21st century teacher in higher education and conditions necessary for enhancing the innovation competence of higher education teachers in African countries. The existing higher education teacher competence profile (e.g. see Tigelaar et al. 2004) does not include competencies such as innovating, collaborating and network, and entrepreneurship. Hitherto, such competencies are increasingly acknowledged as being fundamental to professionals in all labour fields. Putting it succinctly, using a mixed research approach (quantitative and qualitative research methods) and multiple data sources in a spiral manner helped to cogently generate competencies teaching staff require for their present and future university duties, and to profile the necessary conditions for developing such competencies. As such, this can act as a benchmark in competence profile development of professionals in service sectors such as education.

Generally, this thesis makes an invaluable contribution on the scientific literature regarding supporting teacher competence development for better learning outcomes in higher education, particularly in African countries like Uganda. This is in line with the social efficiency theory where quality education is regarded as a "powerful tool" of social control and/or regulation for addressing the problems of the modern society (Kliebard, 2004). This is buttressed by the fact that developed countries have used quality education, among other things, to progress from agrarian to industrialised economies and now to post-industrialised/knowledge economies.

Practical Contribution

This thesis contributes to the research agenda aimed at enabling universities in African countries like Uganda to have adequate teaching staff with the competence to provide relevant and high quality university education. Moreover, Feigenbaum & Iqani (2013) assert that teaching staff in higher education institutions often design and teach courses alone and due to the pressure of teaching loads, administrative duties, student pastoral care and generating research output, they rarely have the opportunity to think about or discuss what teaching quality means and how to contribute to that ideal. Accordingly, this thesis acts as a good starting point for higher education technocrats and university managers in Uganda and indeed other countries that want to revitalise their higher education system with the aim of being able to: define the learning outcomes of initial university teacher education programmes; define criteria for recruitment and selection of suitable people for university teaching/research posts;

assess university teaching staff needs for in-service training; and arranging the provision of professional learning opportunities so that the teaching staff have the desire and concern for long-life learning within their career and general life issues as well.

Moreover, Henard & Leprince-Ringuet (2008) assert that quality teaching has become an issue of importance as the landscape of higher education continues to face challenges such as: increased international competition; increasing social and geographical diversity of the student body; increasing demands of value for money; and introduction of information technologies, among others. Besides, university teaching staff are increasingly under pressure to enable people from all sections of the society to be included in higher education and achieve their potential as successful and productive learners and citizens now and in future (Morrison, 2012). As such, this thesis, therefore, points to the need for Uganda to consider investing heavily in developing the capacity of teaching staff to design and develop higher education curricula that can lead to high quality human capital development in the country.

6.6 Recommendations for Policy and Practice

The innovation competence profile for teaching staff in universities presented in this thesis provides a good point of departure for effective academic staff management and development practices in higher education institutions. There are relentless calls to improve the quality of the teaching staff in universities in African countries, but up to till now, there has been lack of a contemporary university teaching staff job profile to inform university teacher education, recruitment, training and development. It is hereby suggested that as a measure to improve the quality of teaching staff in Ugandan universities, the National Council for Higher Education, should consider putting in place a national university teacher profile to guide academic staff management and development in the country. This is believed to be helpful in regulating the quality of teaching and learning, research, innovation and community services provided by universities in the country.

Likewise, this thesis recommends that Uganda makes initial university teacher education training and development mandatory to all teaching staff in Ugandan universities. Otherwise, with notable exception, to regulate university education provided by individuals who do not have education, training and development in what they are doing and with no national/official job profile to indicate the core competencies they need to perform their present and future university service duties, leaves a lot to be desired. Notably, developed countries with unquestionable quality higher education systems, for instance, UK, Netherlands and Sweden, have embraced mandatory initial higher education teacher training

and development as one of the measures to ensure high quality university teaching and learning, research and innovation (European Commission, 2013; Zuljan & Vogrinc, 2011).

This thesis, through the use of multiple data sources, has demonstrated that assessment of university teaching staff job performance precedes effective university teaching staff training and development. However, in the framework of Ugandan universities, students are not involved in teacher evaluation of the instruction process and regular carrying out of teacher job evaluation to find out the extent the teachers are performing their work so that they are supported to realise peak performance. Considering that students are the main stakeholders in the education system, it is pertinent, therefore, that mandatory regular teacher evaluation involving the teachers themselves, their students and the heads of the academic units/departments, be carried out. This is critical if universities want to know the competence strengths and gaps of the individual university teaching staff, which in turn informs the teaching staff management and development decisions such as promotions, training and development, remuneration, etc.

In this thesis, it has been established that participation in innovation-oriented: accredited education and training courses; conferences, workshops, seminars, symposia, and brainstorming sessions: individual and/or group action research; coaching and mentoring programmes; membership to professional groups and networks; and simulation games, is critical if university teaching staff want to effectively perform their duties. Therefore, university management should make it a cardinal responsibility to organise and/or support formal and informal professional development activities aimed at enhancing the innovation competence of the university teaching staff.

The study has also established that hygiene and motivational factors significantly impact the innovation competence of university teaching staff. This, therefore, implies that as a demand is made for the university teaching staff to effectively perform their present and future duties, there is also a need to ensure that the institutional and personal factors that affect the university teaching staff's work are appropriately addressed. Besides, as the Equity Theory (Adam, 1961) suggests, the input of the employees, to a significant extent, depends on the output they get from their employers in terms of, for example, remuneration, treatment and other organisation benefits. It is farfetched to think that university teaching staff can be motivated to whole heartedly work towards the realisation of the university goals when their own personal goals are not sufficiently taken care of. This, therefore, implies that there must be a balance between the demand to satisfactorily execute the university tasks in improved and/or new ways and meeting of university teaching staff needs and expectations. This study ,

therefore, recommends that university managers put in place specific money-generating projects, aimed at raising adequate funds to satisfactorily address the institutional and personal factors that hinder university teaching staff from executing their duties in improved and/or new ways.

References

Abaho, E. (2013a). Entrepreneurial curriculum as an antecedent to entrepreneurial values in Uganda: a SEM model. *Global Advanced Research Journal of Management and Business Studies, 2(2), 085-092.*

Abaho, E. (2013b). Entrepreneurship lecturer's entrepreneurial orientation; evidence from Uganda. *International Journal of Multidisciplinary Research, 3(5), 42-57.*

Adams, J. S. (1963). Towards an Understanding of Inequity. *The Journal of Abnormal and Social Psychology, 67(5), 422-436.*

Aguele, L. I. (2007). Information and Communication Technology in university in Nigeria: challenges for teaching and learning. Available at: http://www.ece.salford.ac.uk. Accessed on: 14-9-2014.

Ajayi, I. A., Awosusi, O. O., Arogundade, B. B. & Ekundayo, H. T. (2011). Work environment as correlate of academic staff job performance in south west Nigerian universities. *European Journal of Educational Studies 3(1), 1-9.*

Aktar, S., Sachu, M. K. & Ali, M. E. (2012). The impact of rewards on employee performance in Commercial Banks of Bangaladesh: an empirical study. *IOSR:Journal of Business and Management, 6(2)09-15.*

Alake-Tuenter, E. (2014). Inquiry-based science teaching competence of pre-service primary teachers. PhD Thesis, Wageningen University.

Alberta Education. (2011). *Alberta Education action agenda 2011-14.* Edmonton, AB: Alberta Education.

Alderman, L., Towers, S. & Bannah, S. (2012). Student feedback systems in higher education: a focused literature review and environmental scan. *Quality in Higher Education, 18(3),261-280.*

Altany, A. (2011). Professional faculty development: the necessary fourth leg. Available at: http://www.facultyfocus.com/articles/faculty-development/professional-faculty-development-the-necessary-fourth-leg. Accessed on: 14-11-2014.

Altbach, P. G. (2007). Peripheries and centres: research universities in developing countries. *Higher Education Management and Policy, 19(2), 111-134.*

Altbach, P. G. (2003). *The decline of the guru: the academic profession in developing and middle-income countries.* New York: Palgrave/MacMillan.

Altbach, P. G., Reisberg, L. & Rumbley, L. E. (2009). Trends in global higher education:

tracking an academic revolution. A report prepared for the UNESCO 2009 world conference on higher education. Available at: http://www.uis.unesco.org. Accessed on: 21-11-2014.

Altbach, P. G. & Teichler, U. (2001). 'Internationalisation and exchanges in a globalised University', *Journal of Studies in International Education, 5(1), 5-25.*

Amme, G. & Agaba, J. (2014). Universities told to stop duplicating courses. Available at: http://www.newvision.co.ug/news/658082-universities-told-to-stop-duplicating-courses.html. Accessed on: 29-09-2014.

Anyim, C.F., Chidi, O. C. & Badejo, A. E. (2012). Motivation and employees' performance in the public and private sectors in Nigeria. *International Journal of Business Administration, 3 (1), 31-40.*

Asiimwe, D., Ezati, E., Mugisha, F, Muhangi, D., Onweg, T. & Nnsabagasani. (2001). "Decentralisation and Human Resources Demand Assessment from the Perspective of the Districts", Makerere University.

Association of African Universities (2013). 13th General Conference: "Transforming African higher education for graduate employability and socio-economic development. Hotel Okoume Palace, Libreville, Gabon, 28-31 May 2013. Available at: http://www.aau.org. Accessed on: 5-8-2014.

Atuahene-Gima, K. (1996). The influence of innovation orientation in human resource management on new product development: the moderating role of innovation. *Journal of Market-Focused Management, 1, 87-107.*

Awan, U., Munir, G. & Farid, S. (2013). Work satisfaction aspects in academics: an empirical study. *World Applied Sciences Journal 28(12), 2193-2201.*

Aydin, O. T. (2012). The impact of motivation and hygiene Factors on research performance: an empirical study from a Turkish university. *International Review of Management and Marketing, 2(2),106-111.*

Bailey, T., Cloete, N. & Pillay, P. (2007). Universities and economic development in Africa: case study - Uganda and Makerere University. Available at: http://chet.org.za. Accessed on: 23-11-2014.

Bakah, M. A. B. (2011). Teacher professional development through collaborative curriculum design in Ghana's polytechnics. PhD dissertation, University of Twente, The Netherlands.

Bakkenes, I., Vermunt, J. D. & Wubbels, T. (2010). Teacher learning in the context of

educational innovation: Learning activities and learning outcomes of experienced teachers. *Learning and Instruction, 20, 533-548.*

Baligidde, S. (2013). Reforms are needed to improve state of higher education. Available at: http://www.newvision.co.ug. Accessed on: 5-8-2014.

Baryamureeba, V. (2013). International Higher Education Collaborations: Role of the Diaspora. Higher Education Initiative Forum, Annual UNAA Convention Omni Downtown Dallas Hotel, 29th August-1st September 2013. Available at: http://mubs.ac.ug/docs. Accessed on: 5-8-2014.

Beaty, L. (1998). The professional development of teachers in higher education: structures, methods and responsibilities. *Innovations in Education & Training International, 35(2),99-107*.

Bedggood, R. E. & Donovan, J. D. (2012). University performance evaluations: what are we really measuring? *Studies in Higher Education, 37(7), 825-842*.

Birkinshaw, J. & Duke, L. (2013). Employee-led innovation. *Business Strategy Review, 24(2), 46-51*.

Bisaso, R. (2010). Organisational responses to public sector reforms in higher education in Uganda: a case study of Makerere University, *Journal of Higher Education Policy and Management, 32(4), 343-351*.

Blair, E. & Noel, K. V. (2014). Improving higher education practice through student evaluation systems: is the student voice being heard?, *Assessment & Evaluation in Higher Education*, doi: 10.1080/02602938.2013.875984.

Bloom, D., Canning, D., & Chan, K. (2006). *Higher education and economic development*. Human Development Sector African Region.

Boud, D. & Brew, A. (2013). Reconceptualising academic work as professional practice: implications for academic development. *International Journal for Academic Development, 18(3), 208-221*.

Boyce, C. & Neale, P. (2006). Conducting in-depth interviews: a guide for designing and conducting in-depth interviews for evaluation input. Pathfinder international tools series. Available at: http://www.cpc.unc.edu/measure/training. Accessed on: 12-7-2014.

Brandon, P. & Lombardi, P. (2009). Evaluating sustainable development in the built environment. Blackwell-Willey.

Brennan, J., King, R. & Lebeau, Y. (2004). The role of universities in the transformation of

societies. An International research project. Synthesis report. Association of Commonwealth Universities. Available at: http://www.open.ac.uk/cheri/documents/transf-final-report.pdf. Accessed on: 5-8-2014.

Brew, A. & Boud, D. (1996). Preparing for new academic roles: An holistic approach to development. *The International Journal for Academic Development, 1(2), 17–25.*

Briggs, S. (2005). Changing roles and competencies of academics. The Higher Education Academy and SAGE Publications (London, Thousand Oaks, CA and New Delhi) Vol 6(3): 256–268

British Council. (2014). Can higher education solve Africa's job crisis? Understanding graduate employability in Sub-Saharan Africa. Available at: www.britishcouncil.org/education/ihe. Accessed on: 3-7-2014.

Broad, K. & Evans, M. (2006). A review of literature on professional development content and delivery modes for experienced teachers. Available at: http://www.oise.utoronto.ca. Accessed on: 13-10-2014.

Brown, A. (2009). *Higher skills development at work: A Commentary by the Teaching and Learning Research Programme*. London: ESRC,TLRP.

Buckley, S. (2012). Higher education and knowledge sharing: from ivory tower to twenty-first century. *Innovations in Education and Teaching International, 49(3), 333-344.*

Bunoti, S. (2010). The quality of higher education in developing countries needs professional support. Available at: http://www.intconfhighered.org. Accessed on: 23-11-2014.

Burgelman, R. (1986). Managing corporate entrepreneurship: New structures for implementing technological innovation. In M. Horwitch (Ed.), *Technology and the Modern Corporation* (pp. 112-153). New York: Pergamon Press.

Burnard, P. Gill, P., Stewart, K., Treasure, E. & Chadwick, B. (2008). Analysing and presenting qualitative data. *British Dental Journal, 204, 429-434.*

Businge, C. (2014). Uganda's higher education chocking. Available at: http://www.newvision.co.ug. Accessed on: 5-8-2014.

Caena, F. (2011). Literature review - quality in teachers' continuing professional development. Available at: http://ec.europa.eu/education/policy/strategic-framework/doc/teacher-development_en.pdf. Accessed on: 28-01-2012.

Cai, Y. & Liu, C. (2013). The roles of universities in innovation in Chinese regional innovation systems- re-examination of the Triple Helix Model. Available at: http://www.regionalstudies.org. Accessed on: 26-9-2014.

Casares, J., Dickson, D.A., Hannigan, T. & Phelps, A. (2011). The future of teaching and learning in higher education. Available at: http://www.rit.edu. Accessed on: 29-7-2014.

Castells, M. (1996). *The Rise of the Network Society – The Information Age: Economy, Society and Culture.* Vol. I. Oxford UK: Blackwell.

Catano, V. M. & Harvey, S. (2011). Student perception of teaching effectiveness: development and validation of the evaluation of teaching competencies scale. *Assessment & Evaluation in Higher Education, 36(6), 701-717.*

Carley, K. (1992). *MECA.* Pittsburgh, PA: Carnegie Mellon University.

Cerinsek, G. & Dolinsek, S. (2009). Identifying employees' innovation competency in organisations. *Int. J. Innovation and Learning, 6(2), 164- 177.*

Chen, J-Q. & Chang, C. (2006). Testing the whole teacher approach to professional development: a study of enhancing early childhood teachers' technology proficiency. *Early Childhood Research & Practice, 8(1).* Available at: http://www.ecrp.uiuc.ed. Accessed on: 13-10-2014.

Christensen, C. M. (1997). *The innovator's dilemma: when new technologies cause great firms to fail*. Boston, Massachusetts, USA: Harvard Business School Press.

Clark, M. C. (1993). Transformational learning, New Directions For Adult and Continuing Education, (57), 47-56.

Coleman, J. S. (1984). "Universities in the New States of Africa and Asia", in Hetland, A., eds., *Universities and National Development: A Report of the Nordic Association for the Study of Education in Developing Countries*, Stockolm: Almqvist & Wiksell International, pp. 85-104.

Collins, C. S. & Rhoads, R. A. (2008). The World Bank and higher education in the developing world: the cases of Uganda and Thailand. *The worldwide Transformation of Higher Education International Perspectives on Education and Society,9,177-221.*

Coyle-Shapiro, J. A-M. & Shore, L. M. (2007). The employee-organisation relationship: where do we go from here? *Human Resource Management Review, 17(2), 166-179.*

Cremin, L. (1953). The heritage of American teacher education. *Journal of Teacher Education, 4(2)163-170.*

Creswell, J. W. (2013). *Qualitative, quantitative, and mixed methods approaches (4th ed.).* Thousand Oaks, CA: Sage.

Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating*

quantitative and qualitative research (4th ed.).Upper Saddle River, NJ: Pearson Education.

Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle Creek, NJ: Pearson Education.

Cutright, M. (2010). Expanding access and quality in Uganda: the challenges of building a plane while flying it. *International Education, 40(1), 21-31*.

Dale, R. (2005). Globalisation, knowledge economy and comparative education. *Comparative Education, 41(2), 117-149.*

Darso, L. (2012). Innovation competency – an essential organizational asset. In: K. Moller et al. (eds.). Employee-driven innovation. A new approach to innovation. London: Palgrave Macmillan.

Dartey-Baah, K. & Amoako, G. K. (2011). Application of Frederick Herzberg's Two-Factor theory in assessing and understanding employee motivation at work: a Ghanaian Perspective. *European Journal of Business and Management, 3(9), 1-9.*

Deiaco, E., Hughes, A., McKelvey, M. (2012).Universities as strategic actors in the knowledge economy. *Cambridge Journal of Economics, 26, 525-541*.

Den Brok, P., Brekelmans, M., & Wubbels, T. (2004). Interpersonal teacher behaviour and student outcomes. *School Effectiveness and School Improvement, 15(3–4), 407–442.*

De Pree, M. (1987). *The art of leadership*. New York: Doubleday.

De Rijdt, C., Dochy, F., Bamelis, S. & Van der Vleuten, C. (2014). Classification of staff development programmes and effects perceived by teachers. *Innovations in Education and Teaching International, doi: 10.1080/14703297.2014.916543.*

De Tienne, D. & Mallette, P. (2012). Antecedents and outcomes of innovation-oriented cultures. *International Journal of Business and Management, 7(18).* doi:10.5539/ijbm.v7n18p1.

De Weert, E. (2011). Perspectives on higher education and the labour market: review of international policy developments. IHEM/CHEPS Thematic Report. Available at: http://www.utwente.nl. Accessed on: 4-8-2014.

De Vos, B. (2015). Worldwide interest in online lectures – MOOCs – given by Wageningen University. Available at: http://www.wageningenur.nl/en/newsarticle/Worldwide-interest-in-online-lectures-MOOCs-given-by-Wageningen-University.htm. Accessed on: 15-01-2015.

Dolton, P., Marcenaro-Gutierrez, O., Pota, V., Boxser. & Pajpani, A. (2013). 2013 Global

teacher status index. Available at: http://www.varkeygemsfoundation.org. Accessed on: 29-7-2014.

Drew, S. & Klopper, C. (2014). Evaluating faculty pedagogic practices to inform strategic academic professional development: a case of cases. *Higher Education, 67,349–367.*

Du Chatenier, E. (2011). Open innovation competence: towards a competence profile for inter-organisational collaboration in innovation teams. PhD Thesis, Wageningen University, Wageningen, The Netherlands.

Du Chatenier, E., Verstegen, J. A. A., Biemans, H. J. A., Mulder, M. & Omta, O. S. W. (2010). Identification of competencies for professionals in open innovation teams. *R&D Management, 40(3), 271-280.*

Duderstadt, J. J. (1999). The future of higher education - new roles for the 21st-century university. Available at: http://deepblue.lib.umich.edu/bitstream/handle/2027.42/88249/1999_Future_Roles_for_Higher_Education. Accessed on: 12-01-2015.

Dyer, J., Gregersen, H. & Christensen, C. M. (2011). The innovator's DNA : mastering the five skills of disruptive innovators. Boston, Massachusetts: Harvard Business Review Press.

Economist Intelligence Unit . (2009). Organisational agility: how business can survive and thrive in turbulent times. Available at: http://www.emc.com/organisational-agility. Accessed on: 03-07-2014.

Ehrich, L. Tennant, L. & Hansford, B. (2002). A review of mentoring in education: Some lessons for nursing. *Contemporary Nurse, 12, 253-264.*

Eisemon, T. O. & Salmi, J. (1993). African universities and the state: prospects for reform in Senegal and Uganda. *Higher Education, 25, 151-168.*

Ekou, J. (2013). Eradicating extreme poverty among the rural poor in Uganda through poultry and cattle improvement programmes- a review. Journal of Development and Agricultural Economics, 5(11), 444-449.

Ellett, C. D., Wren, C. Y., Callendar, K. E., Loup, K. S. & Liu, X. (1996). Looking backwards with the personnel evaluation standards: an analysis of the development and implementation of a state-wide teacher assessment system. *Studies in Educational Evaluation, 22(1), 79-113.*

Ellington, H. (2000). How to become an excellent tertiary-level teacher: seven golden rules for university and college lecturers. *Journal of Further and Higher Education, 24(3), 311-321.*

Enemark, S. (2005). Capacity building for higher education in developing countries: a part of the western world university portfolio? Available at: http://vbn.aau.dk/en/publications/capacity-building-for-higher-education-in-developing-countries. Accessed on: 10-11-2014.

European Commission. (2013). Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions. Available at: http://ec.europa.eu/education/library/reports/modernisation_en.pdf. Accessed on; 11-01-2015.

European Commission. (2012). Lifelong learning: policies and programme. Available at: http://ec.europa.eu/education/policy/school/doc/keyreview_en.pdf. Accessed on: 17-01-2015.

European University Association. (2010). Africa-Europe higher education cooperation for development: meeting regional and global challenges. Retrieved from http://www.eua.be/Libraries/Publications_homepage_list/Africa-Europe_Higher_Education_Cooperation_White_Paper_EN.sflb.ashx.

Evans, J. D. (1996). *Straight forward statistics for the behavioural sciences*. Pacific Grove, C.A: Brooks/Cole Publishing.

Feigenbaum, A., & Iqani, M. (2015). Quality after the cuts? Higher education practitioners' accounts of systemic challenges to teaching quality in times of 'austerity'. Journal of Further and Higher Education, 39(1), 46-66.

Fenwick, T. & Parsons, J. (2000). *The Art of Evaluation: A Handbook for Educators and Trainers.* Toronto: Thompson Educational Publishing.

Ferman, T. (2002). Academic professional development practice: what lecturers find valuable. *International Journal of Academic Development, 7(2), 146-158.*

Foulger, T. S., Williams, M. K. &Wetzel, K. (2008). 'We innovate: the role of collaboration in exploring new technologies'. *International Journal of Teaching and Learning in Higher Education, 20(1), 28-38.*

Fritsch, M. & Schwirten, C. (1999). Enterprise-university cooperation and the role of public research institutions in regional innovation systems. *Industry and Innovation, 6(1), 69.*

Fullan, M. (2007). *The New Meaning of Educational Change* (4th ed.). New York: Teachers College Press.

Garcia, L. M. & Roblin, N. P. (2008). Innovation, research and professional development in higher education: learning from our own experience. *Teacher and Teacher Education, 24, 104-116.*

Gesci. (2012). What is the knowledge society? Available at: http://www.gesci.org. Accessed on: 28-10-2014.

Ghazi, S. R., Shahzada, G. & Khan, S. (2013). Resurrecting Herzberg's Two-Factor Theory: an implication to the university teachers. *Journal of Educational and Social Research, 3(2), 445-451.*

Gibbs, G. & Coffey, M. (2004). The impact of training of university teachers on their teaching skills, their approach to teaching and the approach to learning of their students. *Active Learning in Higher Education, 5, 87-100.*

Glaser, B. & Strauss, A. L. (1967). *The discovery of Grounded Theory: strategies for qualitative research*. Chicago: Aldine Publishing Company.

Gohari, P., Ahmadloo, A., Boroujan, M. B. & Hosseinipour, S., J. (2013). The relationship between rewards and employee performance. *Interdisciplinary Journal of Contemporary Research in Business. 5(3), 543-570.*

Government of Uganda (GoU) (2001). Universities and Other Tertiary Institutions Act, 2001(as amended in, 2003 and as amended in, 2006).

Guasch, T., Alvarez, I. & Espasa, A. (2010). University teacher competencies in a virtual teaching/learning environment: Analysis of a teacher training experience. *Teaching and Teacher Education, 26, 199-206.*

Guest, G., Bunce, A. & Johnson, L. (2006). "How many interviews are enough? An experiment with data saturation". *Field Methods, 18(1).*

Guskey, T. R. (2002). Professional Development and Teacher Change. *Teachers and Teaching: theory and practice, 8(3), 381-391.*

Hager, P. & Butler, J. (1996). Two models of educational Assessment. *Assessment and Evaluation in Higher Education, 21(4), pp. 367-378.*

Hamdan, Z. A. (2011). Teachers' attitudes towards professional development activities and their impact on their practices and motivation: a case study. Master degree thesis: Lebanese American University. Available at: http://www.ecommons.lau.edu. Accessed on: 13-10-2014.

Hamzah, M. I. M., Maidin, F. & Rahman, S. (2011). Supporting and inhibiting factors of creativity, innovation and wisdom among teachers in a learning organisation. *World Applied Sciences Journal (Innovation and Pedagogy for Lifelong Learning), 15, 56-62.*

Harden, R. M. & Crosby, J. (2000). AMEE Guide No 20: The good teacher is more than a lecturer - the twelve roles of the teacher. *Medical Teacher, 22(4), 334-347.*

Harley, K., Barasa, F., Bertram, C., Mattson, E. & Pillay, S. (2000). "The real and ideal": teacher roles and competences in South Africa- policy and practice. *International Journal of Educational Development, 20, 287-304.*

Henard, F. & Leprince-Ringuet, S. (2008). The path to quality teaching in higher education. OECD: Institutional Management for Higher Education. Available at: http://www.oecd.org/edu/imhe. Accessed on 5-8-2014.

Henard, F. & Roseveare, D. (2012). Fostering quality teaching in higher education: policies and practices. An IMHE Guide for Higher Education Institutions. Available at: http://www.oecd.org. Accessed on: 17-10-2014.

Hendry, G. D. & Dean, S. J. (2002). Accountability, evaluation of teaching and expertise in higher education. *International Journal for Academic Development, 7(1), 75-82.*

Herzberg, F., Mausner, B. & Snyderman, B. (1959). *The motivation to work. New York*: John Wiley & Sons.

Hodgson, N. (2012). "The only answer is innovation…": Europe, policy, and the big society. *Journal of Philosophy of Education,46(4).*

Hoon, L. H., Lin, G. K. M. & Ling, C. L. (2013): Good teaching: what matters to university Students. *Asia Pacific Journal of Education, 1 – 13.*

Hsieh, S., Lin, j. & Lee, H. (2012). Analysis on literature review of competency. *International Review of Business and Economics, 2, 25-50.*

Human Development Report. (2014). Sustaining human progress: reducing vulnerabilities and building resilience. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/UGA. Accessed on: 05-11-2014.

Hunzicker, J. (2011). Effective professional development for teachers: a checklist. *Professional Development in Education, 37 (2), 177-179.*

IBM. (2007). *Africa: a global innovation outlook report*. IBM, New York.

Iqbal, M. Z. & Mahmood, A. (2011). Factors related to low research productivity at higher education level. *Asia Social Science, 7(2), 188-193.*

James, L., Guile, D. & Unwin, L. (2011). From learning for the knowledge-based economy to learning for growth: re-examining clusters, innovation and qualifications, published by the Centre for Learning and Life Chances in Knowledge Economies and Societies. Available at: http://www.llakes.org. Accessed on 29-03-2013.

Johnson, R. B. & Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. *Educational Researcher, 33(7), 14-26.*

Kagaari, J. R. K. & Munene, J. C. (2007)."Engineering lecturers' competencies and organisational citizenship behaviour (OCB) at Kyambogo University". *Journal of European Industrial Training, 31(9), 706 – 726.*

Kang, S-C., Morris, S. S. & Snell, S. A. (2007). Relational archetypes, organisational learning, and value creation: extending the human resource architecture. *Academy of Management Review*, 32(1), 236–256.

Karacaoglu, O. C. (2008). Determining the teacher competencies required in Turkey in the European Union harmonisation process. *World Applied Sciences Journal, 4(1), 86-94.*

Karbasioun, M., Mulder, M. & Biemans, H. (2007). Towards a job competency profile for agricultural extension instructors: A survey of views of experts. *Human Resource Development International, 10(2), 137-151.*

Kasozi, A. B. K. (2003). *Higher education in Uganda: Challenges and opportunities for reform.* Kampala: Fountain Publishers.

Kasule, G.W., Wesselink, R. & Mulder, M. (2014). Developing innovation competence profile for teaching staff in higher education in Uganda. *Journal of Education,2(2), 1-26.*

Katz, J. S. & Martin, B. R. (1995). What is research collaboration? *Research Policy, 26, 1-18.*

Kibwika, P. (2006). *Learning to make change: Developing innovation competence for recreating the African university of the 21st century*. PhD Thesis, Wageningen University, Wageningen Academic Publishers.

King, H. (2004). Continuing professional development in higher education: what do academics do? *Planet, 13, 26-29.*

King, N. A. S. (2013). Investigation of Factors Hindering Quality Education in Secondary Schools in Mbeya, Tanzania. *International Journal of Learning & Development, 3(6), 52-63.*

Kirunda, A. (2014). The need for real Education reform in Uganda. Available at: http://www.newvision.co.ug. Accessed on: 5-8-2014.

Kliebard, H. (2004). *The Struggle for the American Curriculum,1893-1958*. New York :Routledge Falmer.

Kolb, D. (1984). *Experiential Learning, Experience as a Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall.

Knapper, C. K. & Cropley,A.J. (1985). *Lifelong learning and higher education*. New Hampshire: Croom Helm.

Krejcie, R. V. & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and psychological measurement, 30, 608.*

Kropff, M. J. (2014). Tertiary education: a prerequisite to meet global challenges. *Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), 8(9), 1- 4.*

Kular, S., Gatenby, M., Rees, C., Soane, E. & Truss, K. (2008). Employee engagement: a literature review. Kingston Business School Working Paper Series No 19. Available at: http://eprints.kingston.ac.uk/4192/1/19wempen.pdf. Accessed on: 19-01-2015.

Kumar, R. (2011). *Research methodology: a step – by – step guide for beginner (3rd ed.).* London: SAGE Publication Ltd.

Kyriakides, L., Demetriou, D. & Charalambous, C. (2006). Generating criteria for evaluating teachers through teacher effectiveness research. *Educational Research, 48(1) 1-20.*

Laine, K., Van der Sijde, P., Lahdeniemi, M. & Tarkkanen, J. (2008). Higher education institutions and innovation in the knowledge society. The Rector Conference of Finnish Universities of Applied Sciences. Available at: http://www.arene.fi. Accessed on: 1-8-2014.

Lans, T., Oganisjana, K., Taks, M. & Popov, V. (2013). Learning for entrepreneurship in heterogeneous groups: experiences from an international, interdisciplinary higher education student programme. *TRAMES,17(67/62), 4, 383–399.*

Lester, R. K. (2005). Universities, innovation, and the competitiveness of local economies. a summary report from the local innovation systems project-phase 1. Industry Performance Centre: Massachusetts Institute of Technology.

Levin, M. & Greenwood, D. (2001). Pragmatic action research and the struggle to transform universities into learning communities. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice (pp. 103–113).* London: Sage.

Liakopoulou, M. (2011). The professional competences of teachers: which qualities, attitudes, skills and knowledge contribute to a teacher's effectiveness? *International Journal of Humanities and Social Science, 1(21), 66-78.*

Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis, 15(2), 129-151*

Lulat, Y. G-M. (2005). *A history of African higher education from antiquity to the present: a critical synthesis.* Westport, CT: Praeger.

MacBeath, J. (2012). Future of teaching profession. Leadership for Learning: The Cambridge Network. Available at: http://www.download.ie-ie.org. Accessed on: 13-11-2014.

MacCormack, A., Thedore, F., Brooks, P. & Kalaher, P. (2007). Innovation through global

collaboration: a new source of competitive advantage. HBS Working Paper, 07-079, Harvard Business School.

Machado-Taylor, M. de. L., Soares, V. M., Ferreira, J. B. & Gouveia, O. M. R. (2011). What factors of satisfaction and motivation are affecting the development of the academic career in Portuguese higher education institutions? *RAP-Rio de Janeiro 45(1), 33-44.*

Mamdani, M. (2007). *Scholars in the market place-The dilemmas of new-liberal reform at Makerere University, 1989-2005*. Kampala: Fountain publishers.

Mansilla, V. B. & Jackson, A. (2011). Educating for global competence: preparing our Youth to engage the world. Available at: http://asiasociety.org/files/book-globalcompetence.pdf. Accessed on: 29-01-2013.

Mansvelt, J., Suddaby, G. & O'Hara, D. (2008). Learning how to e-teach? Staff perspectives on formal and informal processional development activity. Available at: http://www.ascilite.org.au. Accessed on: 15-10-2014.

Maor, D. C. (2006). Using reflective diagrams in professional development with university lecturers: a developmental tool in online teaching. *The Internet and Higher Education, 9(2), 133-145.*

March, J. G. & Simon, H. A. (1958). *Organisations*. New York.

Marsh, H.W. (1987). Students' Evaluations of university teaching: research findings, methodological issues, and directions for future research. *International Journal of Educational Research, 11,253-387.*

Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice, 13(6), 522-525.*

Martin, E., Prosser, M., Trigwell, K., Ramsden, P. & Bejamin, J. (2000). What university teachers teach and how they teach it. *Instructional Science 28, 387-412.*

Martin, S. (1997). Two Models of Educational Assessment: a response from initial teacher education: if the cap fits …, *Assessment & Evaluation in Higher Education, 22(3),337-343.*

Marotta, D., Mark, M., Blom, A. & Thorn, K. (2007). Human capital and university in industry linkages roles in fostering firm innovation: an empirical study from Chile and Colombia. Available at: http://www.elibrary.worldbank.org. Accessed on: 1-8-2014.

Mayer, P., Wilde, M., Dinku, A., Fedrowitz., Shitemi, N. L., Wahlers, M. & Ziegel, F. (2011). Challenges for faculty management at African higher education institutions. University of Applied Sciences: Osnabruck, Germany.

McAleese, M., Bladh, A., Berger, V., Bode, C., Muehlfeit, J., Petrin, T., Schiesaro, A. &

Tsoukalis, L. (2013). Report to the European Commission: improving the quality of teaching and learning in Europe's higher education institutions. Available at : http://www.ec.europa.eu. Accessed on: 13-10-2014.

McClellan, J. (2010). Envisioning learning societies across multiple dimensions. Available at: http://www.learndev.org/dl/VS3-00g-LearnSocMultDim.PDF. Accessed on: 09-01-2015.

McMartin, J. A. & Rich, H. E. (1997). Faculty attitudes towards student evaluation of teaching. *Research in Higher Education,11,(2).*

McMillan, W. J. (2007). ''Then you get a teacher'' - Guidelines for excellence in teaching. Available at: http://repository.uwc.ac.za/xmlui/bitstream/handle/10566/84/McMillan_Guidelines2007-1.pdf?sequence=3. Accessed on: 05-01-12.

Meek, L. V., Teichler, U. & Kearney, M. L. (2009). Higher education, research and innovation: changing dynamics. Report on the UNESCO forum on higher education, research and knowledge 2001-2009.

Mezirow, J. (2003). Transformative Learning as Discourse. *Journal of Transformative Education, 1(1), 58-63.*

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.

Mezirow, J. & Associates. (2000). *Learning as transformation*. San Francisco: Jossey-Bass.

Migosi, J. A., Migiro, S. O. & Ogula, P. (2011). Factors that motivate business faculty in Kenya to conduct research. International *Journal of Education Administration and Policy Studies, 4(10),198-204.*

Mikre, F. (2010). The roles of assessment in curriculum practices and enhancement of learning. *Ethiop. J. Educ. & Sc.,5(2),101*.

Ministry of Finance, Planning and Economic Development (2009). Uganda national science, technology and innovation policy. Available at: http://www.ist-africa.org/home/files/Uganda_STI_Policy_2009.pdf. Accessed on: 07- 01-2015.

Mohamedbhai, G. (2014). Quality in higher education sacrificed for quantity. World University News, 13 June 2014 Issue No:324. Available at: http://www.universityworldnews.com. Accessed on: 27-11-2014.

Morrison, A. J. (2012). Initial teacher training/education standards for lecturers in Scotland's colleges. Available at: http://www.scotland.gov.uk/Resource/0039/00390659.pdf. Accessed on: 04-12-2014.

Morse, J. M. & Niehaus, L. (2009). *Mixed methods design: Principles and procedures*. Walnut Creek, CA: Left Coast Press.

Moses, I. (1993). The development of knowledge and skills of academic staff. *Higher Education Management, 5, 2, 173-190.*

Mowery, D. C. & Sampat, B. N. (2003). Universities in national innovation systems. Available at: http:www.smarttech.gatech.edu. Accessed on: 26-9-2014.

Mugimu, C.B. & Ezati, B. A. (2010). Possibilities and challenges of providing continuous professional development in pedagogy for higher education staff in Africa: a case study of Makerere University. *Comparative & International Higher Education, 2*.

Mulder, M. (2014). Conceptions of professional competence. In S. Billett, C. Harteis, H. Gruber (Eds.). *International Handbook on research into professional and practice-based learning.* Springer.

Mulder, M. (2010). Competence development in higher agricultural education. In M. Slavík & B. Jordánová (Eds.). *Teacher training for vocational education in contemporary Europe.* Prague: Czech University of Life Sciences, (pp. 25-38).

Mundy, M. A., Kupczynski, L., Ellis, J. D., & Salgado, R. L. (2012). Setting the standard for faculty professional development in higher Education. *Journal of Academic and Business Ethics,1-9.*

Musset, P. (2010). "Initial teacher education and continuing training policies in a comparative perspective: current practices in OECD countries and a literature review on potential effects", OECD education working papers, No. 48, OECD Publishing. Available at: http://www.oecd-ilibrary.org/docserver/download/5kmbphh7s47h.pdf. Accessed on: 06-01-2015.

Muwanga, J. Z. (2009). Challenges to e-learning in developing communities of Africa. Pan African Research Agenda on the Pedagogical Integration of ICTs. Available at: http://www.ernwaca.org. Accessed on: 14-9-2014.

Nab, J. & Lans, T. (2012). Practice what you preach? A literature review on roles and competences for the entrepreneurship teacher. Available at: https://www.wageningenur.nl/upload_mm/9/c/1/710a6f9a-82ed-42ec-ba68-87504e513861_251hoPracticewhatyouJanNab.pdf. Accessed on: 23-01-2013.

Nadeem, M., Rana, M. S., Lone, A. H., Maqbool, S., Naz, K. & Ali, A. (2011). Teachers competencies and factors affecting the performance of female teachers in Bahawalpur (Southern Punjab) Pakistan. *International Journal of Business and Social Sciences, 2(19), 217-222.*

Nasr, A. R., Gillet, M. & Booth, T. (1997). Do university teachers require qualifications in education? : an investigation of lecturers' attitudes towards teaching development. Available at: http://www.herdsa.org.au. Accessed on: 24-9-2014.

National Council of Higher Education (2012). "The state of higher education and training". Available at: http://www.unche.or.ug/publications. Accessed on 15-6-2014.

Naylor, D. (2012). The role of universities for the 21st century. Remarks to the Science and Technology in Society Forum 9th Annual Meeting, Kyoto, Japan. Available at: http://www.president.utoronto.ca/securecontent/uploads/2012/10/President_Naylor_STS_Remarks.pdf. Accessed on: 03-01-2015.

Neuendorf, K. A. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage.

Nicoll, K. & Harrison, R. (2003). Constructing the good teacher in higher education: The discursive work of standards. *Studies in Continuing Education, 25(1), 23-35.*

Nilsson, J-E. (2004). The role of universities in regional innovation systems- a Nordic perspective. Available at: http://www.bth.se. Accessed on: 17-10-2014.

Noell, H. H. (1976). Herzberg's two-factor theory of job satisfaction. Defence Management School. Fort Belvoir, Virginia.

Odoi-Tanga, F. (2009). Politics, ethnicity and conflict in post independent Acholiland, Uganda 1962-2006. PhD dissertation, University of Pretoria. Available at: http://upetd.up.ac.za/thesis/available/etd-05162010-003240/unrestricted/00front.pdf. Accessed on: 30-12-2014.

OECD. (2010). Innovation to strengthen growth and address global and social challenges. Ministerial report on the OECD Innovation Strategy. Available at: http://www.oecd.org/sti/45326349.pdf. Accessed on: 28-11-2014.

OECD. (2008). Tertiary education for the knowledge society – OECD thematic review of tertiary education.

OECD. (2005). *Teachers matter. Attracting, developing and retaining effective teachers*. Paris: OECD. Available at: http://www.oecd.org. Accessed on 08-09-2014.

Ogom, R. O. (2007). Tertiary education and development in Sub-Saharan Africa at the dawn of the twenty first century: a lost hope or present opportunity? Available at: http://www.nssa.us. Accessed on: 20-10-2014.

Ogot, B. A. & Weidman, J. C. (1993). Prospectus for a five-year programme of research on higher education in Kenya and East Africa. Available at: http://www.pitt.edu/~weidman/MasenoResearchProgram. Accessed on: 03-11-2014.

Olutunji, M. O. (2013). Ensuring and promoting the pedagogical competence of university

lecturers in Africa. Journal of educational and instructional studies in the world, 3(3), 73-85.

Olssen, M. & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: from the free market to knowledge capitalism. *Journal of Education Policy, 20(3), 313-345.*

O'Sullivan, M. C. (2010). Educating the teacher educator- a Ugandan case study. *International Journal of Education Development, 30, 377-387.*

Otaala, J., Maani, J. S. & Bakaira. G. G. (2013). Effectiveness of University Teacher Education Curriculum on the Secondary School Teacher Performance in Uganda: The Case of Kyambogo University. *Journal of International Cooperation in Education, 15 (3),95-112.*

Palmer, S. (2012). Student evaluation of teaching: keeping in touch with reality. *Quality in Higher Education, 18(3), 297-311.*

Pantic, N., Wubbels, T. & Mainhard, T. (2011). Teacher competence as a basis for teacher education-comparing views of teachers and teacher educators in five Western Balkan countries. *Comparative Education Review, 55(2),165-188.*

Pargaru, I., Gherghina, R. & Duca, I. (2009). The role of education in the knowledge based society during the economic crisis. Annales: *Universitatis Apulensis series Oeconomic, 11(2).*

Patton, M. Q. (2001). *Qualitative evaluation and research methods (3rd ed.)*. Newbury Park, CA: Sage Publications.

Penalver, M. J. P., Aznar-Mas, L. E. & Watts, F. (2012). To adapt or to die when leaving the university: to promote innovation competence may be the key. Available at: http://www.upv.es/diaal/publicaciones/Art%C3%ADculo%20INTED2012.pdf. Accessed on: 28-04-2013.

Peter, J. (2004). The university as workplace: preparing lecturers to teach in online environment. *Quarterly Review of Distance Education, 5(1), 21-27.*

Pillay, P. (2010a). *Higher education and economic development: a literature review*. Cape Town: Centre for Higher Education Transformation.

Pillay, P. (2010b). Linking higher education and economic development: implications for Africa from three successful systems. Cape Town: Centre for Higher Education Transformation.

Pilot, A. & Kaseen, F. (2008). The teacher as a crucial factor in curriculum innovation: The

case of Utrecht University. Paper presented at the VSNU 2008 Conference, Mastricht, December 12, 2008.

Putnam, R. T. & Borko, H. (1997). 'Teacher learning: implications of new views on cognition', in Biddle, B. J., Good, T. L. & Goodson, I. F. (eds.), *International Handbook of Teachers and Teaching. Boston: Kluwer, pp. 1223–1296.*

Quinn, L. (2003). A theoretical framework for professional development in a South African university. *International Journal for Academic Development, 8(1-2), 61-75.*

Ramkissoon, H. (2008). Challenges facing the university in a knowledge economy. Available at: http://caribbeanscience.org/about/files/Ramkissoon-2008-TWAS%20Article.pdf Accessed on: 02-11-2014.

Rangel, E. & Ivanova, A. (2014) Higher Education Policies and Employment in Mexico. *Modern Economy, 5, 821-830.*

Rasmussen, P. (2009). "Creative and innovative competence as a task for adult education", paper for the Third Nordic Conference on Adult Education, Middelfart, Issue, 4. Available at: http://www.lline.fi/en/article/research/rasmussen/creative-and-innovative-competence-as-a-task-for-adult-education. Accessed on: 02-11-2014.

Ronald, B. A. (2013). Top five flashpoints in the assessment of teaching effectiveness. *Medical Teacher, 35(1),15-26.*

Rowe, K. J. (2003). The importance of teacher quality as a key determinant of students' experiences and outcomes of schooling. Available at: http://www.nswteachers.nsw.edu.au. Accessed on: 17-10-2014.

Runhaar, P. (2008). Promoting teachers' professional development. PhD Dissertation, Universiteit twente.

Rush, M. (2000). Basic Workplace Competencies for Professional-Technical Programs. Idaho Division of Professional-Technical Education. Available at: http://pte.idaho.gov/pdf/BasicWorkplaceCompetencies. Accessed on 30-6-2014.

Sa, M. C. (2011). Redefining university roles in regional economies: a case study of university-industry relations and academic organisation in nanotechnology. The International Journal of Higher Education and Educational Planning, 61(2), 193-208.

Samoff, J. (2003). Institutionalising international influence. *Safundi: The Journal of South African and American Studies, 4(1), 1-35.*

Sawyerr, A. (2004a). Challenges facing African universities: selected issues. *African review studies, 47(1), 1-59.*

Sawyerr, A. (2004b). African universities and the challenge of research capacity

development. *JHEA/RESA, 2(1), 211–240.*

Schein, E. (2010). *Organisational culture and leadership* (4th Ed.). San Francisco, CA: John Wiley & Sons.

Schleicher, A. (2011). Is the sky the limit to education improvement? *Phi Delta Kappan, 93*(2), 58-63.

Senge, P. M. (1990). *The fifth discipline: The Art and Practice of the Learning Organization*, Bantam New York: Doubleday Dell Publishing Inc.

Shah, S. M. A., Samo, S. S. & Mughal, S. H.(2014). Factors influencing motivation level of academic staff in Education of IBA Community College, Khairpur Mir's. *International Journal of Computers and Technology, 13(5), 4496- 4501.*

Shaheen, I., Sajid, M. A. & Batool, Q. (2013). Factors affecting the motivation of academic staff: a case study of University College Kotli,UAJ & K. *International Journal of Business and Management Invention, 2(1), 105-112.*

Siguaw, J. A., Simpson, P. M. & Enz, C. A. (2006). Conceptualising innovation-orientation: a framework for study and integrating of innovation research. *Journal of Product Innovation Management, 23, 256-574.*

Smith, K. S. & Simpson, R. D. (1995). Validating Teaching Competencies for Faculty Members in Higher Education: A National Study Using the Delphi Method. *Innovative Higher Education, 19(3), 223-233.*

Ssentamu, J. D. (2013). Prospects and challenges of higher education in Uganda. Speech at the celebrations to commemorate 50 years of the university of east Africa. Available at: http://vc.mak.ac.ug/speeches/2013/06. Accessed on: 23-11-2014.

Ssesanga, K. & Garrett, R. M. (2005). Job satisfaction of university academics: perspectives from Uganda. *Higher Education, 50(1), 33-56.*

Stefanov, K., Nikolova, N., Ilieva, M. & Stefanova, E. (2008). Turning university professors into competent learners (or how to interweave a new educational methodology with a tool for lifelong learning). Available at: https://www.fmi.uni-sofia.bg/nauchna-sesiya-mart-2008/statia_TENCompetence_I_Teach_final.pdf. Accessed on: 24-03-2011.

Stello, C. M. (2010). Herzberg's Two-Factor Theory of job satisfaction: an integrative literature review. Available at: http://www.cehd.umn.edu. Accessed on: 18-10-2014.

Stemler, S. (2001). "An Overview of Content Analysis". *Practical Assessment, Research & Evaluation 7 (17).*

Swanberg, J. (2010). The innovative workplace: a white paper on developing an innovative

workplace. *University of Kentucky Institute for Workplace Innovation*. Available at: www.iwin.uky.edu.

Tafel-Vila, K., Loogma, K. & Lassur, S. (2012). Networks as agents of innovation: teacher networking in the context of vocational and professional higher education reforms. *Vocations and Learning, 5, 175-193.*

Tettey, W. J. (2010). Challenges of developing and retaining the next generation of academics: deficits in academic staff capacity at African universities. Available at: http://www.foundation-partnership.org/pubs/pdf/tettey_deficits.

Thijs, A. & van den Akker, J. (Eds.). (2009). *Curriculum in development*. Enschede, Netherlands: SLO–Netherlands Institute for Curriculum Development. Available at: http://www.slo.nl/downloads/2009/curriculum-development.

Tidd, J. (2000). *From knowledge management to strategic competence: measuring technological, market and organizational innovation.* London: Imperial College Press.

Tidd, J., Bessant, J. & Pavitt, K. (2001). *Managing innovation: integrating technological, market and organisational change* (2nd ed.). Chichester: John Wiley & Sons, Ltd.

Tigelaar, D. E. H., Dolmans, D. H. J. M., Wolfhagen, I. H. A. P. & Van der Vleuten, C. P. M. (2004). The development and validation of a framework for teaching competencies in higher education. *Higher education, 48, 253-268.*

Todtling, F. (2006). The role of universities in innovation systems and regional economies-Expert meeting on the future of academic research. Available at: http://www.oecd.org. Accessed on: 26-9-2014.

Tornatzky, L. & Rideout, E. C. (2014). Reinventing university roles in a knowledge economy. Available at: http://www.innovation-U.com. Accessed on: 2-8-2014.

Torvik, R. (2009). Why do some resource-abundant countries succeed while others do not? *Oxford Review of Economic Policy, 25(2), 241–256.*

Trilling, A. & Fadel, C. (2009). *21st century skills: Learning for life in our times*. San Francisco: Jossy-Bass.

Trust Africa Policy Brief. (2010). Strengthening and transforming higher education in Africa. Available at: http://www.trustafrica.net/documents. Accessed on: 5-8-2014.

Uganda Bureau of Statistics. (2014). Uganda population hits 35 million. Available at: http://chimpreports.com/uganda-population-hits-35-million. Accessed on: 30-12-2014.

UNESCO. (2010). Trends in tertiary education: sub-Saharan Africa. Available at: http://www.uis.unesco.org. Accessed on: 08-11-2014.

UNESCO. (2005). EFA Global Monitoring Report: The impact of education quality

on development goals. Available at: http://www.unesco.org/education/gmr.

UNESCO. (1996). Enhancing instructional competence in higher education: a study of pedagogic needs in some African universities. Available at: http://unesdoc.unesco.org/images/0010/001055/105555e.pdf.

UNESCO. (1993). Development of higher education in Africa: Dakar Seminar (19-24 November 1992). Priority: Africa programme of action proposed by the Director-General (1990-1995). In co-operation with the Association of African Universities (AAU) (Publication CAB-93/WS).

UNESCO. (1992). Development of higher education in Africa: Accra Seminar (25-29 November 1991). Priority: Africa programme of action proposed by the Director-General (1990-1995). In co-operation with the United Nations Development Program (UNDP) and the Association of African Universities (AAU) (Publication CAB-92/WS-1).

Vance, R. J. (2006). Employee engagement and commitment: a guide to understanding, measuring and increasing engagement in your organisation. SHRM Foundation. Available at: http://www.shrm.org. Accessed on: 20-10-2014.

Van Dam, K., Schipper, M. & Runhaar, P. (2010). Developing a competency-based framework for teachers' entrepreneurial behaviour. *Teaching and Teacher Education, 26, 965-971.*

Van Deuren, R. (2013). Capacity development in higher education institutions in developing countries. *Maastricht School of Management, Working Paper No. 2013/30*. Available at: http://www.msm.nl/getattachment/. Accessed on: 26/5/2014.

Van vught, F. A. & Westerheijden, D. F. (1994). Towards a general model of quality assessment in higher education. *Higher Education 28, 355-371.*

Vasiliauskiene, L., Stanikuniene, B. & Lipinskiene, D. (2005). The employees' competence development inside organisation: managerial solutions. *Engineering Economics, 5(45), 51-59*.

Velasco, M. S., Martinez, M. T. S. & Ferrero, N. R. (2012). Developing generic competences in the European higher education area: a proposal for teaching the principles of economics. *European Journal of Education, 47(3), 462-476.*

Vila, L. E., Perez, P. J. & Morillas, F. G. (2012). "Higher education and the development of competencies for innovation in the work place". *Management Decision, Vol. 50 Issue:9, pp. 1634-1648.*

Villalta-Cerdas, A., McKeny, P., Gatlin, T. & Sandi-Urena, S. (2014). Evaluation of

instruction: students' patterns of use and contribution to RateMyProfessors.com. *Assessment & Evaluation in Higher Education,6(1),30-44.*

Villegas-Reimers, E. (2003). Teacher professional development: an international review of the literature. UNESCO: International Institute for Educational Planning. Paris. Available at: http://www.iiep.unesco.org. Accessed on: 9-8-2014.

Wachtel, H. K. (1998). Student evaluation of college teaching effectiveness: a brief review. *Assessment & Evaluation in Higher Education, 23(2), 191-212.*

Waldron, N. L. & Mcleskey, J. (2010). Establishing a collaborative school culture through comprehensive school reform. *Journal of Educational and Psychological Consultation, 20:58–74.*

Watts, F., Garcia-Carbonell, A. & Andreu-Andres, M. (Eds.) (2013). Innovation competencies development: INCODE Barometer and User Guide. Turku University of Applied Sciences. Available at: http://www.julkaisut.turkuamk.fi. Accessed on: 19-8-2014.

Weaver, D., Robbie, D., Kokonis, S. & Miceli, L. (2013). Collaborative scholarship as a means of improving both university teaching practice and research capability. *International Journal for Academic Development, 18(3), 237-250.*

Weisbord, M. R. (1989). *Productive workplaces*. San Francisco: Jossey- Bass.

Wesselink, R. (2010). Comprehensive competence-based vocational education: the development and use of a curriculum analysis and improvement model. PhD Thesis, Wageningen University.

Wesselink, R., Dekker-Groen, A., Biemans, H. J. A. & Mulder, M. (2010). Using an instrument to analyse competence –based study programmes; experiences of teachers in Dutch vocational education and training. *Journal of Curriculum Studies, 42 (6), 813-829.*

Wiek, A., Withycombe, L. & Redman, C.L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustain Sci, 6, 203-218*.

Woldman, N., Runhaar, P., Wesselink, R., & Mulder. M. (2014). Antecedents and outcomes of competence development in organizations: a systematic literature review. Working Paper Contribution UFHRD Conference - Edinburgh, 4-6 June 2014. Available at: http://www.ufhrd.co.uk/wordpress/wp-content/uploads/2014/11/Nienke-Woldman.pdf. Accessed on: 14-01-2015.

World Bank. (2005). Poverty headcount ratio at $1.25 a day (PPP) (% of population).

Available at: http://data.worldbank.org/indicator/SI.POV.DDAY. Accessed on: 30-12-2014.

World Bank. (2003). *Lifelong learning in the global knowledge economy: challenges for developing countries.* Washington, D.C.: The World Bank.

World Bank. (2002). *Constructing knowledge societies: New Challenges for Tertiary Education*. Washington, DC: World Bank.

World Bank. (2000). *Higher education in developing countries peril and promise*: The task force on higher education and society. Washington, D. C: The International Bank for Reconstruction and Development / The World Bank.

World Economic Forum . (2010). The Global Competitiveness Report 2010–2011. Available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf. Accessed on: 22-01-2015.

Yizengaw, T. (2008). Challenges of higher education in Africa and lessons of experience for the Africa-U.S. higher education collaboration initiative. Available at: http://www.aplu.org/NetCommunity/Document. Accessed on 4-7-2014.

Yorke, M. (2005). Issues in the assessment of practice-based professional learning: a report prepared for the practice-based professional learning CETL at the Open University. Available at: http://www.open.ac.uk/cetl-workspace/cetlcontent/documents/464428ed4aa20.pdf. Accessed 03/06/2014.

Young, S. & Shaw, D. (1999). Profiles of effective college and university teachers. *Journal of Higher Education, 70(6),670-686.*

Zaineb, A. (2010). Encouraging employees for innovation. CommLabIndia. Available at: http://www.blog.commlabindia.com. Accessed on: 21-8-2014.

Zeichner, K. M., & Liston, D. P. (1990). Theme: Restructuring teacher education. *Journal of Teacher Education, 41(2), 3-20.*

Zinkina, J. & Korotayev, A. (2014). Explosive population growth in tropical Africa: crucial omission in development forecasts- emerging risks and way out. *World Futures, 70 (2), 120-139.*

Zuljan, M.V. & Vogrinc, J. (2011). European dimensions of Teacher Education - similarities and differences. Available at: http://www.pef.uni-lj.si/fileadmin/Datoteke/Zalozba/pdf/Zuljan_Vogrinc_Teacher_education.pdf. Accessed on: 11-01-2015.

Summary

More than ever before, both in developed and developing countries, competence development of higher education teachers, as a measure to improve the quality of teaching and learning as well as contributing more to community development, has received considerable attention. Accordingly, in order to ensure that higher education prepares people with competencies needed in the ever changing global knowledge-based economy, researchers and policy makers advocate for teacher competence development, with the supposition that competent teachers will deliver quality higher education, thus leading to better learning outcomes of students and improvement of people's quality of life in general.

However, it is worth noting that since time immemorial, higher education, particularly at the university level, has been and/or is characterised by academic autonomy and freedom, where with notable exceptions, the professor/lecturer in most cases exclusively determine what to teach and how to teach it? In the environment that universities and other higher education institutions of learning are no longer the sole creators, disseminators and custodians of knowledge and skills in this knowledge and innovation era, there is a need to redefine higher education teacher tasks and devise ways of supporting higher education teachers to effectively perform their present and future duties in improved and/or new ways.

It is not "rocket science" to deduce that university teaching staff competence levels significantly impact the attainment of students' learning and outcomes. As such, if the university teaching staff do not possess competencies that can enable them to effectively perform their present and future university duties, this, regardless of context, negatively impacts national development and the improvement of people's quality of life. For instance, voluminous literature indicates that most university lecturers in African universities lack competence in: programme design and development; pedagogy and andragogy; and innovation, among others (Kibwika, 2006; Olutunji, 2013; UNESCO, 1996). Consequently, in the absence of the aforementioned core competences from the teaching staff force in most African countries like Uganda, high quality university education capable of fostering sustainable development and improvement of people's quality of life can hardly be realised .

This thesis espouses the mind of Alake-Tuenter (2014) that high quality teacher education, which yields competent teachers, is the foundation of any system of formal education. However, Uganda lacks a national profile that spells out the competencies university teaching staff need in order to effectively perform their present and future duties.

In this light, this thesis has two key aims. The first aim is to establish which innovation competencies do university teaching staff require? The second aim is to explore the necessary conditions that support innovation competence development of university teaching staff. The first aim was mainly attained by performing a literature study and the second aim was achieved by performing empirical studies using exploratory interviews and a questionnaire survey designed to identify: professional development activities; and hygiene and motivational factors perceived as being important in enhancing university teaching staff innovation competence.

Chapter 1 describes the context of the study, the problem statement, the purpose of the study, the research questions and design, and the characteristics of the four separate studies presented in this thesis. In the condition that there is very little scientific literature regarding university teaching staff innovation competence, chapter 2 addresses the following question: *Which innovation-oriented competencies university teaching staff require are mentioned, discussed and researched in recent higher education teacher competence general literature?* The literature review used the specific inclusion criteria, and a total of 28 articles were selected for analysis. The analysis led to the identification and classification five competence domains and fourteen associated competencies that are needed by the teaching staff in higher education for innovation.

In an attempt to validate as well as to contextualise the generated university teaching staff innovation competence profile from the literature study, a questionnaire survey involving key internal university education stakeholders (university teaching staff, Senior Administrative Staff (SAS) and students) was performed. The aim of this empirical study was to establish the extent to which the generated competencies from the literature study are deemed applicable and important to Kyambogo University, especially in the climate of university education reform in Uganda. Our research indicates that innovating, knowledge society facilitating, collaborating and networking, higher education designing and developing, and entrepreneurship competence domains and associated competencies, as mentioned in literature, are important domains for university teaching staff innovation competence. We suggest that the competence domains and associated competencies profiled herein be considered as a corner stone in developing a job profile for university teaching staff at Kyambogo University and other similar higher education institutions in Uganda.

Accordingly, this can go a long way in informing effective university teacher management, education, training and development practices. In chapter 3, we used a questionnaire survey (based on findings in Chapter 2). Accordingly, we asked the following

question: *What is the current status of teaching staff innovation competence at Kyambogo University* ? The results indicated that teaching staff performance on the aspect of: innovating; knowledge society facilitating; collaborating and networking; higher education designing and developing; and entrepreneurship, could not be considered as adequate. In order to mitigate the limitation of the subjectivity associated with using the self-assessment method in research, we used multiple data sources to get the overall picture of the innovation competence levels of university teaching staff. The results indicated that there are significant differences in the rating of university teaching staff innovation competence, although , the differences were small and more or less reflected the same view regarding the extent to which teaching staff at Kyambogo University possess innovation competence. In light of the findings in chapter 3, we propose urgent interventions to be undertaken towards the development of university teaching staff innovation competence at Kyambogo University. If the university wants to have adequate academics that can enable it to be and/or remain relevant and competitive in the ever changing knowledge and innovation economy.

Based on the findings in chapter 3, the aim of chapter 4 was to explore appropriate professional development activities for teaching staff innovation competence development. The ensuing question guided this study: *Which professional development activities are perceived as being important for Kyambogo University teaching staff innovation competence?* The results revealed that accredited education and training: conferences, workshops, seminars, symposia, and brainstorming sessions; individual and/or group action research; coaching and mentoring programmes; membership to professional groups and networks; and simulation games all oriented on innovation, are the important professional development activities that can be used to enhance university teaching staff innovation competence. Results in chapter 4 further reveal that out of the five university teaching staff innovation competence domains as profiled in chapter 2, it is only the higher education designing and developing competence domain that had a significant correlation between university teaching staff participation and perception of the degree of importance of the professional development activities. In our view, this finding could be considered strange in a normal situation, however, it can be best explained by another finding in this thesis (see chapter 4), which indicates that the teaching staff at Kyambogo University rarely participate in professional development activities particularly for innovation.

Basing on the understanding that there is an array of factors that impact university teaching staff job performance other than professional development, chapter 5 made an attempt to explore institutional and personal factors that influence university teaching

innovation competence. This study was guided by the following research question: *Which hygiene and motivation factors are perceived as being important to enhance Kyambogo University teaching staff innovation competence?* The results showed that within both the motivational and hygiene factors, some factors (for instance, being assigned challenging and stimulating tasks, good salary, favourable working conditions and job security) are perceived as being more important than other factors (for instance, personal achievement, personal life issues - family obligations and status accorded by the institution) when it comes to teaching staff innovation competence enhancement.

The results further revealed that there is a significant relationship between the degree of importance of hygiene and motivational factors and teaching staff perception of innovation competence enhancement. As such, this denotes that the importance university teaching staff attach to the hygiene and motivational factors at the work place, correlates with the way they think their innovation competence can be enhanced. Accordingly, we posit that university management should endeavour to make the work conditions for teaching staff favourable and never to advance the university goals at the expense of university teaching staff's personal goals. This is perceived as being fundamental in stimulating peak performance from the teaching staff, which in turn enables the university to effectively and efficiently deliver high quality education and other services. In this way, it can be able to play a significant role in fostering national development as well as improvement of people's quality of life in Uganda.

Chapter 6 encapsulates the combined results of the studies and also reflects on the aims of this thesis. The results suggest that in this knowledge and innovation explosion era, innovation-oriented job profiles should underpin higher education teacher education and development policies and practices. This is deemed a viable way for higher education institutions, for instance, universities regardless of context to be and/or remain relevant in the 21st century. The absence of a contemporary national university teacher job profile is not only catastrophic to the quality of education and other services being provided by Ugandan universities, such as Kyambogo, but also to the sound national development and improvement of people's quality of life in Uganda. We, therefore, recommend that a national university teacher job profile which is innovation-oriented, be embedded within the National Council for Higher Education quality assurance framework. We consider this as one of the pragmatic steps that can be taken if Uganda's university education is to be transformed.

Likewise, we hereby posit that it is high time Uganda considered making initial university teacher education training and development mandatory to all teaching staff in Ugandan universities. This will give opportunity to university teaching staff to develop

competence in higher education designing and development among others. If such a measure is not considered, the steady decline of the quality of university education Uganda is inevitable. This will, consequently, have a negative effect on Uganda's Vision 2040, which indicates that Uganda aspires to use education, science, technology and innovation to transform its self from a peasant to a modern and prosperous country within the coming two-and-a-half decades. Moreover, no country can be better than the quality of its human resource who are a product of the country's education system and no education system can be better than the quality of its teachers. This, therefore, means that African countries like Uganda if they want to progress from agrarian to industrialised and then to knowledge economies, putting in place an effective and efficient education system from the primary to university level, should be the number one priority other factors remaining constant.

Finally, the results of this thesis suggest that additional research is required to validate how much, in real terms, innovation-oriented professional development activities profiled herein, contribute to innovation competence development. Another interesting aspect that needs to be investigated in future research is to determine the extent to which other variables such as: age; gender; socio-economic background; education; experience; intelligence; culture; and religion, among others, which are not covered by the Herzberg's Two Factor Theory, influence university teaching staff innovation competence and job performance as a whole. In a situation that there is increasing pressure to reform higher education in most countries across the globe, we deem it necessary for studies to be conducted aimed at establishing the perceptions of university and college professors/lecturers on mandatory initial higher education teacher education, training and development.

Similarly, it would also be worthwhile to conduct a study involving university and college professors/lecturers and other key internal and external stakeholders of higher education to establish their views regarding institutionalisation of a national innovation competence profile for college professors/lecturers to guide teaching staff management and development policies and practices in higher education institutions.

Samenvatting

In zowel westerse landen als ontwikkelingslanden krijgt competentieontwikkeling van docenten in het hoger onderwijs beduidend meer aandacht. Het krijgt enerzijds meer aandacht omdat het de kwaliteit van doceren en leren zou verbeteren en anderzijds omdat het zou kunnen bijdragen aan de ontwikkeling van de gehele samenleving. Derhalve bevelen onderzoekers en beleidsmakers competentieontwikkeling van docenten in het hoger onderwijs aan, opdat het hoger onderwijs vervolgens haar studenten uitrust met competenties die nodig zijn om te functioneren in een kenniseconomie die continu in beweging is. Daarbij wordt verondersteld dat competente docenten kwalitatief beter onderwijs zullen leveren en hiermee bijdragen aan betere leeruitkomsten van studenten, wat vervolgens leidt tot een verbetering van de kwaliteit van leven in het algemeen.

Echter, we moeten ons realiseren dat het hoger onderwijs, met name op het niveau van universiteiten, sinds mensenheugenis wordt gekenmerkt door academische autonomie en vrijheid. Het zijn de professoren en docenten die in de meeste gevallen bepalen wat en hoe er onderwezen wordt. Maar, in het huidige tijdperk, dat zich kenmerkt door kennis en innovatie, zijn universiteiten en hogescholen niet langer de enige ontwikkelaars, verspreiders en bewakers van kennis en zullen de taken van docenten in het hoger onderwijs opnieuw gedefinieerd moeten worden. Tevens zullen er verbeterde of nieuwe manieren moeten worden gevonden om docenten in het hoger onderwijs te ondersteunen, zodat zij nu en in de toekomst effectief zullen presteren. Het competentieniveau van de onderwijsstaf heeft dus een voorspellende waarde op de leeruitkomsten van studenten. Mochten docenten niet over de competenties beschikken, die nodig zijn om effectief te presteren in hun huidige en toekomstige functies, dan zal ongeacht de context dit een negatieve invloed hebben op de ontwikkeling van de samenleving en niet of nauwelijks leiden tot verbetering van de kwaliteit van leven.

Vele onderzoeken laten echter zien dat universitaire docenten in Afrikaanse landen een gebrek hebben aan competenties in onder andere het ontwerpen en ontwikkelen van onderwijsprogramma's, pedagogiek en andragogiek, en innovatie (Kibwika, 2006; Olutunji, 2013; UNESCO, 1996). In het geval dat deze competenties afwezig zijn, is kwalitatief hoger onderwijs (d.w.z. hoger onderwijs dat in staat is om duurzame ontwikkeling te voeden en de kwaliteit van leven te verbeteren) in de meeste Afrikaanse landen - zoals Oeganda - nauwelijks te realiseren. Dit proefschrift omarmt de visie van Alake-Tuenter (2014) dat kwalitatief hoogwaardige docentenopleidingen de basis zijn voor elk systeem van formeel

onderwijs. In Oeganda ontbreekt echter een nationaal profiel die de competenties articuleert die universitaire docenten nodig hebben om nu en later effectief te presteren.

In het licht van wat hierboven is geschetst, heeft dit proefschrift twee doelen. Het eerste doel is om vast te stellen welke innovatiecompetenties nodig zijn voor universitaire docenten om nu en in de toekomst goed te kunnen presteren. Het tweede doel is het in kaart brengen van condities die de ontwikkeling van deze innovatiecompetenties ondersteunen. Om het eerste doel te bereiken heeft een literatuurstudie plaatsgevonden. Het tweede doel is bereikt door het uitvoeren van verschillende empirische studies. In deze studies zijn verkennende interviews in combinatie met vragenlijstonderzoeken gebruikt om de volgende variabelen te identificeren: professionele ontwikkelingsactiviteiten die bijdragen aan de ontwikkeling van innovatiecompententies, en hygiëne en motivationele factoren die door de universitaire docenten als belangrijk worden gepercipieerd voor het ontwikkelen van hun innovatiecompetenties.

Hoofdstuk 1 beschrijft de context, de probleemstelling, het doel, de onderzoeksvragen en het onderzoeksontwerp, en de kenmerken van de vier verschillende studies die in dit proefschrift worden gepresenteerd. Door gebrek aan overzicht wat er is op het gebied van onderzoek naar ontwikkeling van innovatiecompetenties van universitaire docenten wordt in hoofdstuk 2 aandacht besteed aan de volgende vraag: *welke innovatie-georiënteerde competenties, die noodzakelijk zijn voor universitaire docenten, worden benoemd, bediscussieerd en onderzocht in de recente literatuur op het terrein van hoger onderwijs?* Op basis van een aantal specifieke inclusiecriteria zijn er in de review in totaal 28 artikelen geselecteerd voor verdere analyse. De analyse heeft geleid tot de identificatie en classificatie van vijf competentiedomeinen en veertien onderliggende competenties die voor universitaire docenten nodig worden geacht om effectief te presteren in hun huidige en toekomstige werkzaamheden. Om het op de literatuur gebaseerde innovatiecompetentieprofiel voor universitaire docenten te valideren en te contextualiseren is een vragenlijstonderzoek uitgevoerd onder verschillende betrokkenen binnen de universiteit te weten: universitaire docenten, managers en studenten. Tevens was het doel van deze empirische studie om vast te stellen of de competenties, die op basis van literatuur zijn gegenereerd, toepasbaar en belangrijk zijn voor Kyambogo University mede gezien het huidige klimaat van onderwijskundige veranderingen binnen Oegandese universiteiten. Ons onderzoek geeft aan dat de volgende competentiedomeinen van belang zijn voor de innovatiecompetentie van universitaire docenten: 1) innoveren, 2) faciliteren van een kennissamenleving, 3) samenwerken en netwerken, 4) ontwerpen en ontwikkelen van hoger onderwijs, en 5)

ondernemen. Deze competentiedomeinen komen overeen met wat in de literatuur is gevonden. Deze competentiedomeinen en hun onderliggende competenties moeten ons inziens dienen als fundering voor het ontwikkelen van een profiel voor universitaire docenten van Kyambogo University en andere instellingen voor hoger onderwijs in Oeganda. Vervolgens kan het ook een veelbelovend middel zijn om opleidings-, management-, professionaliseringspraktijken voor universitaire docenten te inspireren.

Gebaseerd op de bevindingen in hoofdstuk 2 hebben we in hoofdstuk 3 een vragenlijstonderzoek opgezet om de volgende vraag mee te beantwoorden: *in welke mate beheersen de universitaire docenten van Kyambogo University de innovatiecompetentie?* De resultaten geven aan dat de prestaties van de universitaire docenten op de vijf competentiedomeinen niet als adequaat kunnen worden beschouwd. Om het effect van subjectiviteit te verkleinen, welke vaak geassocieerd wordt met het gebruik van zelfbeoordeling in onderzoek, hebben we gebruik gemaakt van meerdere databronnen. Hiermee willen we een zo compleet mogelijk beeld krijgen van innovatiecompetentieniveaus van de universitaire docenten. De resultaten laten echter zien dat er significante verschillen bestaan tussen beoordelingen die worden gegeven wat betreft de innovatiecompetentie van universitaire docenten. De verschillen zijn echter klein en de uitkomsten laten over het algemeen een zelfde patroon zien als het gaat om de mate waarin universitaire docenten over innovatiecompetentie beschikken op Kyambogo University. In het licht van de bevindingen in hoofdstuk 3 bevelen wij aan interventies te plegen op de ontwikkeling van innovatiecompetentie van universitaire docenten op Kyambogo University. Tenminste als Kyambogo University over voldoende competente universitaire docenten wil beschikken die het mogelijk maken dat de universiteit relevant en competitief blijft in de huidige kennis- en innovatie-economie.

Gebaseerd op de resultaten van hoofdstuk 3 is het doel van het vierde hoofdstuk te verkennen wat geschikte professionele ontwikkelingsactiviteiten zijn om de innovatiecompetentie van de universitaire docenten te ontwikkelen. De bijbehorende onderzoeksvraag is: *welke professionele ontwikkelingsactiviteiten worden belangrijk gevonden voor het verbeteren van de innovatiecompetentie van de universitaire docenten van Kyambogo University?* De resultaten laten zien dat de volgende activiteiten belangrijk worden gevonden om de prestaties van universitaire docenten te verbeteren: 1) onderwijs en trainingen, 2) conferenties, workshops, seminars, symposia en brainstorm sessies, 3) individueel actieonderzoek of actieonderzoek in een groep, 4) coachen en begeleiden van programma's, 5) lidmaatschap van professionele groepen en netwerken, en 6)

simulatiespellen. Alle professionaliseringsactiviteiten dienen georiënteerd te zijn op innovatie. De resultaten in hoofdstuk 4 laten verder zien dat uit de vijf innovatiecompetentiedomeinen voor universitaire docenten (zoals besproken in hoofdstuk 2) slechts het competentiedomein 'ontwerpen en ontwikkelen van hoger onderwijs' een significante relatie liet zien tussen deelname van universitaire docenten aan professionele ontwikkelingsactiviteiten en de mate waarin de professionaliseringsactiviteit belangrijk werd gevonden. Deze bevinding is in onze optiek vreemd. De bevinding kan echter goed worden verklaard aan de hand van een andere bevinding in dit hoofdstuk. We zien namelijk dat universitaire docenten van Kyambogo University nauwelijks deelnemen aan professionaliseringsactiviteiten, die specifiek gericht zijn op innovatie.

Op basis van het besef dat er naast de professionele ontwikkeling van universitaire docenten tal van andere factoren zijn die werkprestaties kunnen beïnvloeden, is in het vijfde hoofdstuk getracht institutionele en persoonlijke factoren te onderzoeken die de innovatiecompetentie van universitaire docenten kunnen beïnvloeden. Deze studie kende de volgende onderzoeksvraag: *welke hygiëne- en motivatiefactoren worden als belangrijk gezien om de innovatiecompetentie van universitaire docenten van Kyambogo University te verbeteren?* De resultaten tonen aan dat, wanneer het gaat om het verbeteren van de innovatiecompetentie van universitaire docenten, sommige factoren (zoals uitdagende en stimulerende taken toegewezen krijgen, een goed salaris, gunstige arbeidsomstandigheden en baanzekerheid) belangrijker gevonden worden dan andere factoren (zoals persoonlijke prestaties, privé omstandigheden, familiaire verplichtingen, en de eigen status binnen de instelling). Tevens laten de resultaten zien dat er een significante relatie is tussen de hoeveelheid betekenis die men geeft aan hygiëne- en motivatiefactoren en de mate waarin de universitaire docenten aangeven dat de innovatiecompetentie is verbeterd. Dit geeft aan dat de mate van betekenis die universitaire docenten geven aan hygiëne- en motivatiefactoren een correlatie vertoont met de manier waarop zij denken dat hun innovatiecompetentie kan worden verbeterd. Daarom veronderstellen wij dat het management van Kyambogo University er verstandig aan doet te streven naar gunstige werkcondities voor haar onderwijspersoneel. Tevens zou zij ook nooit de doelen van de universiteit boven de persoonlijke doelen van het onderwijspersoneel moeten stellen als deze ten koste hiervan gaan. Dit is fundamenteel voor het stimuleren van topprestaties van het onderwijspersoneel. Deze zullen er op hun beurt voor zorgen dat Kyambogo University kwalitatief goed onderwijs en diensten kan aanbieden op een effectieve en efficiënte wijze. Op deze manier zijn universiteiten als Kyambogo University in staat om een rol van betekenis te spelen in het

bevorderen van de nationale ontwikkeling en bij te dragen aan het verbeteren van de kwaliteit van leven in Oeganda.

In hoofdstuk 6 worden de resultaten van de verschillende studies besproken en wordt gereflecteerd op de doelen van het proefschrift. De resultaten maken duidelijk dat in het hoger onderwijs in het huidige kennis- en innovatietijdperk, docentenopleidingen, professionaliseringsbeleid en -praktijken zouden moeten worden ondersteund met innovatie-georiënteerde beroepsprofielen. Dit wordt gezien als een levensvatbare manier voor het hoger onderwijs (ofwel universiteiten) om relevant te zijn en te blijven in de 21^{e} eeuw. De aanwezigheid van eigentijdse nationale beroepsprofielen voor universitaire docenten is cruciaal; niet alleen voor het onderwijs en andere diensten die worden aangeboden door universiteiten, zoals Kyambogo University, maar ook voor een deugdelijke nationale ontwikkeling en voor de verbetering van kwaliteit van leven in Afrikaanse landen zoals Oeganda. Daarom adviseren wij dat er in het kwaliteitszorgraamwerk van 'the National Council for Higher Education' in Oeganda een nationaal innovatie-georiënteerd beroepsprofiel voor universitaire docenten wordt ingebed. Wij beschouwen dit als één van de pragmatische stappen die genomen kan worden om het universitaire onderwijs van Oeganda te hervormen. Tevens stellen wij dat het hoog tijd is dat een initiële opleiding voor universitair docenten verplicht wordt gesteld voor alle universitaire docenten van Oegandese universiteiten. Dit geeft universitaire docenten de kans om bijvoorbeeld de competentie ontwerpen en ontwikkeling van onderwijsprogramma's te ontwikkelen. Indien dit niet gebeurd, zal een gestage daling van de kwaliteit van het universitair onderwijs in Oeganda onvermijdelijk zijn. Dit zal dientengevolge een negatief effect hebben op Uganda Vision 2040; een beleidsvisie waarin staat aangegeven dat Oeganda zichzelf tot ambitie heeft gesteld om onderwijs, wetenschap, technologie en innovatie te gebruiken om zichzelf binnen de komende twee en een halve decennia te hervormen van een land georiënteerd op agrarische productie naar een modern en welvarend land. Bovendien kan geen land beter zijn dan de kwaliteit van haar inwoners; zij zijn tenslotte het product van het onderwijssysteem en geen onderwijssysteem kan beter zijn dan de kwaliteit van haar docenten. Dit betekent dat wanneer Afrikaanse landen zoals Oeganda zich willen ontwikkelen van een agrarisch land naar een geïndustrialiseerd land naar een kenniseconomie, het opzetten van een effectief en efficiënt onderwijssysteem van basisschool tot universiteit de nummer één prioriteit zou moeten zijn terwijl andere factoren constant blijven.

Tot slot geven de resultaten uit dit proefschrift aan dat aanvullend onderzoek noodzakelijk is om te valideren in welke mate professionele ontwikkelingsactiviteiten, die aan

bod zijn gekomen, daadwerkelijk bijdragen aan de ontwikkeling van innovatiecompetentie. Een ander interessant aspect wat nader onderzoek verdiend, is de mate waarin andere variabelen, die niet worden omvat door Herzberg's twee factoren theorie, invloed hebben op de innovatiecompetentie van universitaire docenten en beroepsprestaties als geheel, zoals bijvoorbeeld: leeftijd, geslacht, socio-economische achtergrond, onderwijsachtergrond, ervaring, intelligentie, cultuur en religie.

Indien er sprake is van een toenemende druk op het hoger onderwijs om zich waar dan ook ter wereld te hervormen, achten wij het noodzakelijk dat er studies worden uitgevoerd naar de perceptie van docenten in het hoger onderwijs met betrekking tot een verplichte initiële docentenopleiding voor het hoger onderwijs. Op een vergelijkbare manier zou het interessant zijn om een studie uit te voeren onder docenten op universiteiten en hogescholen en andere interne en externe betrokkenen, om vast te stellen wat hun perceptie is met betrekking tot de institutionalisering van een nationaal innovatiecompetentieprofiel voor docenten. Dit profiel zou kunnen dienen als gids voor het managen en het ontwikkelen van docenten in het hoger onderwijs.

George Wilson Kasule
Wageningen School of Social Sciences (WASS)
Completed Training and Supervision Plan

Name of the learning activity	Department/Institute	Year	ECTS*
Project related competences			
Participatory approaches in planning, policy and development	WASS	2011	3
Qualitative data analysis: procedures and strategies (YRM 60806)	WUR	2011	6
Research, Manuscript and PhD meetings	ECS	2011 & 2014	2
Writing research proposal	WASS	2011	6
General research related competences			
WASS Introduction Course	WASS	2011	1
Information literacy	Library	2011	0.6
Presentation skills	Language Services	2011	1
Research Methodology: From Topic to Proposal	WASS	2011	4
Project and Time Management	WGS	2011	1.5
Career related competences/personal development			
Effective behaviour in professional surroundings	WASS	2011	0.7
"Developing innovation competence profile for university teaching staff in Uganda"	WASS PhD Day	2014	1
"Developing innovation competence profile for university teaching staff in Uganda"	ECER 2014	2014	1
Teaching and Supervision	KyU	2012 & 2013	4
One Master class (60 hrs) - EP 625: Human Resource Management (38 students)			
Two Undergraduate classes (60 hrs each) - DEPM 211: Management Ethics (60 students) & DEPM 121: Human Resource Management (50 students)			
Total			**31.8**

*One credit according to ECTS is on average equivalent to 28 hours of study load
*WUR- Wageningen University & Research Centre
*WASS- Wageningen School of Social Sciences
*ECS- Education and Competence Studies
*KyU- Kyambogo University
* WGS- Wageningen Graduate Schools