INFLUENCE OF INTERNATIONAL STANDARDIZATION FOR ORGANIZATION (ISO 9001:2008) STANDARDS ON TEACHING AND LEARNING PROCEDURES AND PROCESSES IN SELECTED PUBLIC AND PRIVATE UNIVERSITIES IN KENYA

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DECLARATION

I the undersigned declare that this research dissertation is my original work. To the best of my knowledge it has not been presented for any academic credit in another university.

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DEDICATION

This study is dedicated to Almighty God whose grace has sustained me throughout my life and to the Superior General of the Little Sisters of St. Francis Sr. Professor Anne Nasimiyu together with her council whose leadership made it possible for me to pursue the PhD study program smoothly.

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ABSTRACT

This study investigated the influence of International Organization for Standardization (ISO 9001:2008) standards on teaching and learning procedures and processes in the selected public and private universities in Kenya. The study was guided by the following research questions: How does ISO influence generation of teaching and learning procedures and processes in sampled universities in Kenya? To what extent does ISO certification influence the implementation of teaching and learning procedures and processes? How does ISO influence the resources and the overall quality of infrastructure in teaching and learning processes? What challenges face the ISO certification in teaching and learning procedures and processes? What strategies are and could be in place to address these challenges? The study employed stratified and simple random sampling techniques to get 372 final year full time undergraduate students and 56 full time lecturers from the schools of education. Purposeful sampling was used to select 3 universities for the study, 3 Directorate of Quality Assurance, 3 Heads of Departments and one officer from Kenya Bureau of Standards. The study employed mixed method design (Concurrent Triangulation) which enabled utilization of both quantitative and qualitative methods. Quantitative data were collected by the use of closed and open-ended questionnaires while qualitative data by face to face interview and observation guides. The instruments for data collection were validated by peer review and the experts. The researcher reported qualitative data largely by using detailed descriptions that included direct quotations. The study found that the selected ISO certified universities had documented most of the procedures in teaching and learning processes such as recruitment of lecturers and student admissions, setting, and marking of examinations, procedures on complaints and compliments and requisition for resources. The study found that universities had resources such as libraries, internet, computer labs and projectors among others. The main challenges found were large classes, student leadership, meeting ISO requirements and inadequate funding for research. The study recommends construction of more lecture halls to ease congestion in public universities and coming up with sustainable mechanisms for financing university operations and continuous training on ISO Quality Management System.

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LIST OF ABBREVIATIONS AND ACRONYMS

BSI	British Standard Institution
CAMES	Counseil Africain et Malagache pour I Enseignment Superierur
CEPD	Centre for Educational Policy Development
CUE	Commission for University Education
CUEA	The Catholic University of Eastern Africa
DQA	Directorate of Quality Assurance
ENQA	European Network Quality Assurance
HEI	Higher Education Institutions
HODS	Head of Departments
IAF	Internal Accreditation Forum
IQA	Internal Quality Assurance
ISO	International Organization for Standardization
IUCEA	Inter-University Council for East Africa
IWA2	International Workshop Agreement 2
K.C.S.E	Kenya Certificate of Secondary Education
KEBS	Kenya Bureau of Standards
KU	Kenyatta University
MBO	Management by Objectives

NACOSTI National Commission for Science, Technology and Innovation

OSI Open Systems Interconnection

QMS Quality Management System

TQM Total Quality Management

UoN University of Nairobi

CHAPTER ONE

INTRODUCTION

1.1 Background to the Problem

International Organization for Standardization (ISO 9001:2008) consists of guidelines for Quality Management Systems. The guidelines or requirements apply to any organization whether in production or service sectors (Guchu & Mwanaongoro, 2012, Tsiakals & West, 2010). It is important to note that Quality Standards have been in existence since ancient times with the practices of standardizing stones and wooden gauges for measurements in civilizations of the Egyptians and Samarians (Bevans-Conzales & Nair, 2004). Further, traces of standardization for goods and products can be found throughout history with the merchants and trades people in the Roman Empire, China, India, Japan and Islamic world. According to Pathways (1997), the guilds controlled the trade and set standards for quality products and also set training period for any persons who wished to become a member.

The first forms of modern quality standards were however, developed during the World War II for both products and processes. The British Standards Institution (BSI) created the first real commercial standard series in 1979, which they published and released in The British Standards (BSI) 5750 series of Standards (Wealleans, 2000). In 1980, the BSI 5750 became the cornerstone for national quality. Quality was assured by adhering to the set procedures and processes and mass inspection (Nair, 2002). Many other countries used this standard as a basis for their own quality system including the USA where the ANSI 90 series of quality standards was created. During the same period (1946), International Organization for Standardization (ISO) appointed delegates from 25 countries who met at the Institute of Civil Engineers in London and decided to develop a set of

international quality standards. The group created the Open Systems Interconnection (OSI) which ensured that products from different countries interact in specific areas.

In 1987, ISO 9000 series of quality management system standards was initially issued and reissued with minor revisions in 1994. A major revision was issued in 2000 to update the standards and to make the document more user- friendly. ISO 9001: 2008 is the fourth edition of ISO 9001 series (Mangula, 2012). It is generic and can be applied to any type and size of organization from manufacturing to service, small shops to multinational corporations and money- making enterprises to nonprofit and governmental agencies (Tsiakals & West, 2010).

ISO 9001: 2008 describes what the series is all about in terms of providing quality management principles and fundamentals. It provides a set of standardized guidelines for a quality management system to certify the procedures and processes of an organization but not its products or services (Karapetrtrovic, 2001). According to Cianfrani, Tsiakals & West (2010), the process of QMS entails various steps. ISO 9001: 2008 demands from any organization or institution that decides to implement the QMS to first train its top management and the staff on the requirements of the QMS. The training includes among others internal auditing and the auditing process. Top management has to define quality statements, policies and processes. These should be clearly documented and verified by means of an audit conducted by an independent accredited third party for compliance of those processes to the requirement of the standard.

The standard emphasizes greater focus on customer needs and expectations. It also stresses on monitoring customer satisfaction, establishment of measurable objectives, the role of top management to develop and improve system, continual improvement and training and evaluating training effectiveness. The main reason is to enhance customer

satisfaction by meeting customer requirements. The standard promotes the adoption of a process approach when developing, implementing and improving a quality management system. For an organization or institution to function effectively, it has to determine and manage its numerous linked activities as processes.

A process approach according to ISO 9001: 2008 refers to the identification and interactions of the numerous linked activities within an organization or an institution to produce the desired outcome. Before an organization or institution gets ISO certification, it is expected to have a quality manual that describe the interactions of the procedures and processes. The organizations must have documented procedures to provide evidence of the effectiveness of the system to meet quality objectives as well as meet customer and statutory and regulatory requirements. Whenever Kenya Bureau of Standards (KEBS), one of the accrediting bodies in Kenya recognized by ISO, visits an organization for the auditing processes, they normally audit these procedures and processes together with the records of the particular institution or organization.

Dumond and John (2013) summarize that the heart of a QMS lies in its ability to determine customer requirements, developing processes to meet those requirements, delivering the products or services and measuring customer satisfaction and taking action to improve customer satisfaction. Therefore, when an organization or an institution says that it is ISO 9001:2008 compliant, it means that it is claiming to have a Quality Management System (QMS) meeting the requirements of ISO 9001:2008 as already explained.

Globally, organizations have seen implementation of ISO 9001:2008 requirements a valuable aid to improving the quality of their products and services and not just as a certificate they need to have on the walls (Bureau Veritas, 2007). Research has found that the implementation of quality management system has led to higher organization

performance (Mokhtar & Yusof, 2010, Mayer, Wilde, Dinku, Fedrowitzi. Shitemi, Washlers & Ziegele. 2011). The commonly reported benefits according to Bae (2007) include the organizations' cultural changes and attitudinal changes in staff members towards business- oriented values. These changes have made the staff within the organizations to become more sensitive to quality-related issues that have enabled the organizations to better operate in terms of customer satisfaction. About a million organizations in 176 countries have already adopted the ISO certification and more are in the process (Sallis, 2002, Brennan & Shah, 2000, Gamboa & Melao 2012, Cianfrani, Tsiakals & West, 2010, Dumond & John, 2013).

ISO Quality management System has been regarded as the source of competitive advantage and strategic planning tools for organizations to excel. It has become mandatory although it is supposed to be a voluntary process (Klefsjo, Bergyman & Wellemet, 1994). In today's global and competitive markets, a lack of quality assurance translates to poor products or services. For example in the European Union, ISO 9000 certification is a legal requirement in the medical devices-high pressure valves and public transportation (Mikewright, 2010).

1.1.2 ISO 9001:2008 in Education

Although many countries have already adopted ISO certification in both production and service sectors including education, Van den Berghe (1997) points out that in the early 1990s when Europe began to implement the ISO 9000 family of standard in their educational institutions, followed by those in the United States and Asia, these institutions encountered enormous problems because these standards were designed mainly for manufacturing industry. Studies indicate that defining and relating a QMS such as ISO 9001:2008 in service sector such as education is more challenging than in manufacturing (Sallis, 2002, Naser, 2010, Michalska, 2009).

This is because manufacturing organizations produce tangible products that can be seen, directly touched and quantitatively measured such as cars, clothes, computers, unlike service sector which produces subjective and intangible products. Products in teaching and learning processes such as acquisition of knowledge, skills, and values like honesty, perseverance care, and truthfulness cannot be directly measured (Bevans-Conzales & Nair (2004). They argue that in teaching and learning processes, a quality management system like ISO 9001:2008 involves a lot of bureaucratization with standardized procedures and controls over the teachers' professional work.

In 2003, however, ISO called on over 400 educationists and related scholars to deliberate on the fledgling question of ISO certification and its relevance to quality management of education and institutions therein. The result of the deliberations was the issuance of the International Workshop Agreement 2 (IWA 2) which is a directory of quality management of education. IWA 2 provides general guidance to help educational institutions to relate the concepts in ISO quality management system standards to education and learning practices. For example, a curriculum can specify what is expected to be learnt, and how the learning is to be assessed (ISO/IWA 2, 2003).

On their analysis of IWA 2 guidelines, Lamran, Abbadi and Bavayad (nd) revealed that the ISO strategic plan (2011-2015) did not identify education as one of the sectors where the standards provide and achieve benefits. Accordingly, Kiefer (2003) asserts that ISO 9000 series does not contain specific quantitative standards or benchmarks regarding the level of required performance or the level of inputs that are appropriate in education. The scholar argues that the parts of education system which are the easiest to measure may not be the most important. This is true because qualitative measurement or tools are inadequate or even unavailable in most of the institutions. For example quality education in Kenya especially in primary and secondary schools is largely measured in terms of

impressive examination results which render the education superficial (Amanuel & Nam, 2011, Okemasisi, 2015). Bevans-Conzales & Nair (2004), summarize that there is still a debate surrounding the relevance of ISO quality management system in education.

Amundsen (2000), points out that ISO 9001:2008 certification was initially meant for improving transparency and accountability in educational system. It was also meant to provide exposure to methodologies and initiate policy dialogue on anti corruption in education sector but its implementation is now viewed as a uniform for higher institutions to hide either their corrupt deals such as embezzling, bribery and fraud. Amundsen further ascertains that what the institutions have declared and inscribed on paper is not what has actually been put in practice and concludes that fraud in academic institutions for higher learning is a threat to the integrity and reliability of ISO certification system. Additionally, Knight (2007), asserts that the desire for accreditation status is leading to commercialization of the quality assurance/accreditation. This implies that the institutions or organizations view ISO certifications as an end and not as a means to improve quality.

Similarly, the Centre for Education Policy Development (2009) ascertains that Quality Management Systems such as ISO are criticized for leading organizations or institutions to putting all their energies into compliance in order to get accreditation instead of thinking creatively and consciously about quality. There is a temptation to build the systems in higher education institutions to serve agencies purpose and lose focus on the purpose of the institution.

With regard to Africa, the first formal accreditation process in tertiary education took place in Francophone Africa in 1968 with the creation of the *Counseil Africain et Malagache pour I Enseignment Superierur* (CAMES) to among others harmonize recognition and equivalence of awards among other member nations. Today CAMES is also

responsible for accrediting private universities as well as selecting number of professional programs. In Anglophone Africa; - Nigeria and South Africa were the first to enter the arena of quality assurance notably in technical education in the 1980s (Materu, 2007). Quality assurance aided them to review course design and ensured that the education and training offered at the institutions were up to standard, relevant and of high quality.

At regional level, Articles 5(3), 102 and 103 of The Treaty for the Establishment of the East African Community, 1999, the Partner States in the Community agreed to develop policies and programs to widen and deepen cooperation in the field of education, among other fields. The framework for this cooperation in university education, training and research is the Inter-University Council for East Africa (IUCEA). These articles have been operationalized by the Inter-University Council for East Africa Act, 2008. This Act does not specifically require universities in East Africa to adopt ISO or any particular international quality system but it confers on the Council the responsibility for among other things, developing quality assurance processes in order to ensure that teaching and research in the universities achieve and maintain international standard.

The council has the responsibility and function of assisting member universities to identify and implement good practices in the management of the institutions and use of resources. It supports universities and ensures development of comprehensive network in supporting new methods of teaching and learning information dissemination, developing quality assurance processes in order to ensure that teaching and research in the universities achieve and maintain International Standards. Member countries have therefore adopted ISO certification in their organizations and institutions to hopefully achieve this international recognition.

Kenya as a country has not been left behind in adoption of ISO 9001;2008 standards in both its organizations and institutions of higher learning (Waswa & Swaleh, 2012, Mutunga, 2011). In 2003, there was a directive by the Government that all public servants sign performance contracts and subscribe to giving quality service to the public (Sababu, 2007). All public agencies were directed in 2010 to begin the process of ISO certification and ensure that they were fully certified by 2012 (Amwayi, 2012). Amwayi asserts that ISO certification is viewed by the government as a useful intervention for tackling shortcomings in the public service delivery that has in the past constrained Kenya's quest for social and economic transformation.

With regard to education sector, until the enactment of the Universities Act No. 42 of 2012 by the National Assembly, university education in Kenya did not have a single national regulatory or accreditation body. Whereas private university education institutions were accredited by a grant of a Charter, and regulated by the Commission for Higher Education (CHE), each public university was established and governed in accordance with its own Act enacted specifically for the individual public university. Under the Universities Act (Cap 2010 B), the Act conferred on each public university established the power and authority to determine its own vision, mission and promote what is to be taught, how to teach it and who to teach. Although this was to be in line with the national goals of education, it resulted in disharmony and lack of co-ordination in the manner in which university education was managed in the country and resulted in low quality of education (Ministry of Education, 2012).

It was widely felt that there was need for reforms in the area of university management and especially in relation to matters of standards and quality if the country was to achieve recognition and acceptance and maintain international competitiveness and give value to the public. As a result, The Universities Act No. 42 of 2012 was enacted. This Act

expanded the mandate of the Commission for University Education (CUE) to the public universities and ascertained a level of playing field for both public and private universities. The mission of the Commission among others is to regulate and assure quality university education through setting and enforcing rules, standards and guidelines.

Following the government directives of 2003, and to be able to achieve regionally and globally competitive education training and research, many Kenyan universities have basically modeled their Quality Management Systems (QMS) on the ISO which is accredited by the Kenya Bureau of Standards (KEBS). A number of researchers together with KEBS ascertain that ISO certification has numerous benefits to an organization such as customers and users receiving the products that conform to the requirements, the availability of the products when needed and the maintainability of the products, better working conditions of the employees, increased job satisfaction among others (Sohail, Rajadurai & Rahman, 2003, Heywood, Joosten & Scarlet (nd), Oluoch, 2010, Baraza 2013, Parnwell, 2011).

On the contrary, Wanjiru (2007) reveals that the vigor and applicability of the standards are perceived by employees as restrictive and barriers to providing a flexible and responsive service to customers. There is a lot of bureaucracy involved in documenting and accreditation process. Waswa & Swaleh (2012) assert that the quality assurance standards and procedures tend to be too rigid and homogenous. They have tendencies to merely look at the adequacy of the procedural and managerial processes and not the actual practices taking place with respect to core university functions namely: teaching, research and community service.

In addition to being too formal and having rigid standards, there is a strong focus on quantitative indicators thus making it difficult for higher education institutions to pay

attention to the substantive underlying issues like quality education that is holistic and transformative. Further, Mayer *at el* (2011) assert that the number of students keep increasing without commensurate increase of academic staff, leading to decrease of motivation and commitment to excellence among the academic professionals.

Concurring with the Waswa & Swaleh (2012), Munene (2014), points out that in less than a year after the ISO certification by Kenyatta University and University of Nairobi; learning was disrupted by the striking students who took to the streets in violent and deadly demonstrations. Munene emphasizes that the March 2009 riots of Kenyatta University were the most destructive in the history of the country's higher education. Property worthy over Ksh 200 million was damaged. Munene concludes that by adopting ISO certifications, Kenyan university administrators are succumbing to the faulty logic that ISO certification results in better governance since the riots at Kenyatta and Nairobi suggest otherwise.

The Centre for Education, Policy and Development (CEPD) (2009) points out that ISO is more appropriate for manufacture where there is a clear product to be created than other areas or sectors. For example CEPD argues that it is not clear what in education could be considered a product and that it is not easy to measure teaching and learning processes such as: learning content, competence of the staff in content delivery, teaching and learning styles, time management, creativity, ingenuity, and innovation, attitudes and values such as perseverance, among others which are key in any educational institutions.

The pertinent question arising is whether ISO 9001:2008 certification influences educational processes, or more specifically the teaching and learning procedures and processes and if so, in what way? From the literature reviewed, there are varying opinions and conclusions regarding the adoption of ISO certification in education. This study

therefore sought to find out the Influence of International Organization for Standardization (ISO 9001:2008) standards on teaching and learning procedures and processes in selected public and private universities in Kenya in order to answer the question and fill the information gap.

1.1.3 The Study Context

This study was carried out in ISO certified public and private universities in Kenya namely: Kenyatta University (KU), University of Nairobi (UoN) and The Catholic University of Eastern Africa (CUEA). These universities were selected because they have adopted ISO certification for relatively a long period (About five years for CUEA and more than five years for KU and UoN). In addition, they have well established schools of education that are the main focus of the study. There is a general public perception that despite the adoption of ISO certification by the public and private universities in Kenya, the management of teaching and learning procedures and processes remain a serious cause of concern (Wanzala, 2013).

There was need to find out the validity of these claims. It was therefore critical for a research to be done in these universities that have adopted ISO certification for relatively a longer span of time, because the influence of ISO certification in teaching and learning procedures and processes could be instructive for other universities which are still in the process of seeking ISO certification. This study assessed the influence of ISO 9001:2008 certification on teaching and learning procedures and processes in selected Public and private universities in Kenya.

1.2. Statement of the Problem

Globally, organizations have seen implementation of ISO 9001:2008 requirement a valuable aid to improving the quality of their products and services to satisfy their

customers (Mokhtar & Yusof, 2010). A number of researchers ascertain that ISO certification has numerous benefits to an organization such as customers and users receiving the products that conform to the requirements, the availability of the products when needed and the maintainability of the products, better working conditions of the employees, increased job satisfaction among others (Sohail *et al* 2003, Oluoch, 2010, Baraza 2013, Magutu, Mbeche, Nyaoga, Nyamwenge, Ongeri &Ogoro, 2010, Parnwell, 2011, Mayer *et al*, 2011)**.**

The Government of Kenya similarly views ISO certification as a useful intervention for tackling shortcomings in the public service delivery that has in the past constrained Kenya's quest for social and economic transformation (Amwayi, 2012). Following the government's directive in 2003, for all public agencies to adopt ISO certification as a clear resolve to provide quality services, a number of public and private universities too adopt ISO 9001:2008 certification hoping to improve performance.

Despite the adoption of ISO 9001: 2008 certification by the universities, Amanuel and Nam (2011), together with a number of other studies such as Wanzala, 2013, Nyan'gau, 2011, Gudo, Olel & Oanda, 2011, and Parnwell, 2011), ascertain that the quality of education has in fact deteriorated because students from the ISO certified public and private universities still complain of rote learning, dilapidated facilities, outdated learning resources, poor learning environment, missing results, prolonged programs, and poor response to technological advances.

Similarly, lecturers complain of inadequate funding in requisite teaching and learning resources, bureaucracy in meeting ISO requirements and reduced morale. In addition, Waswa and Swaleh (2012) assert that the quality assurance standards have

tendencies to merely look at the adequacy of the procedural and managerial processes and not the actual teaching and learning procedures and processes.

The pertinent question arising from these outcries is whether the adoptions of ISO 9001:2008 standards by universities, really influence the teaching and learning procedures and processes and if so in what way? Or is there a mismatch between the new management tool-ISO certification-and its influence in teaching and learning procedures and processes? The available literature seems to support that there is indeed a disconnect but it does not sufficiently explain where the disconnect is in regard to teaching and learning procedures and processes. This study therefore focused on the influence of International Organization for Standardization (ISO 9001:2008) standards on teaching and learning procedures and processes in public and private universities in Kenya in order to provide information on what the influence of ISO 9001:2008 is in teaching and learning procedures and processes in universities that have adopted the ISO certifications.

1.3 Research Questions

The study was guided by the following research questions.

i). How does ISO 9001:2008 certification influence the generation of teaching and learning procedures and processes in selected public and private universities in Kenya?

ii). To what extent does ISO 9001:2008 certification influence the implementation of teaching and learning procedures and processes in the selected public and private universities in Kenya?

iii). How does ISO certification influence the resources and quality of infrastructure in teaching and learning processes in the selected public and private universities in Kenya?

iv). What are the challenges facing the implementation of ISO 9001:2008 certification on teaching and learning procedures and processes in the selected public and private universities in Kenya?

v). What Strategies are and could be in place to address the challenges of ISO certification in teaching and learning procedures and processes in the selected public and private universities?

1.4 Significance of the Study

This study assessed the influence of ISO 9001: 2008 on teaching and learning procedures and processes and established that ISO 9001:2008 has influenced the universities in documenting teaching and learning procedures and processes to meet the needs of the customers. This is very significant and instructive to the institutions that are in the processes of getting ISO 9001:2008 now upgraded to ISO 9001:2015. Effective generation, implementation and documentation of teaching and learning procedures and processes will result in quality university education. This quality education will in turn benefit the country in achieving its Vision 2030.

This quality education will also benefit the learners as primary customers by equipping them with appropriate knowledge and skills to play their roles in society. Effective implementation of ISO 9001:2008 principles in teaching and learning procedures and processes will ensure that students are taught by qualified lecturers, with adequate resources, improved infrastructure and in an environment that is conducive to learning.

Lecturers expect improved working conditions, technology and practical support from their managers. They will therefore appreciate an effective Quality Management System that promotes their career development in order to produce the desired education objectives by employing the most effective methods during the teaching processes.

The study will further provide insightful feedback to the university councils and management on how to consistently determine and meet the needs of the students to be more competitive in the global market. The findings of the study will therefore help the institutions to determine the suitability of ISO certification in teaching and learning processes or whether there will be need to adopt a different system or combination of systems in teaching and learning for the purpose of achieving quality education in the country through generation and effective implementation of teaching and learning procedures and processes.

The employers will appreciate the ISO 9001:2008 QMS that bequeaths to them graduates with relevant skills and knowledge to meet market demands. Additionally, the staff of the Quality Assurance Departments and KEBS will get insights from the research findings to improve on the quality of their auditing to achieve the desired outcomes from the Quality Management System.

The study will provide viable information for the policy makers to make informed decisions when adopting an external quality management system while the parents and the society will achieve social, political and economic transformation brought about by appropriate teaching and learning methods and adequate funding.

Theoretically the study has added to the global literature on the influence of ISO 9001:2008 certification on teaching and learning procedures and processes in the institutions of higher learning. The findings of this study have also raised some pertinent issues that can encourage other researchers to replicate the study.

1.5 Scope and Delimitation of the Study

The study aimed at investigating the influence of ISO 9001:2008 certification on teaching and learning procedures and processes in selected private and public universities in

Kenya. While all the ISO certified public and private universities in Kenya could provide pertinent information to this study, the researcher purposively selected three ISO certified universities believed to provide the needed data for the study. The selected universities were; University of Nairobi, Kenyatta University and The Catholic University of Eastern Africa. These universities were selected because they have been ISO certified for relatively a longer period of time (above 4years) and they also have established schools of education which is the main focus of the study.

University of Nairobi is the pioneer institution of university education in Kenya. This university was awarded ISO 9001:2000 certification in August 2008 which was later upgraded to ISO 9001:2008 (University of Nairobi Quality Policy Statement, 2008). The selection of this university to participate in the study has provided pertinent information regarding the implementation and documentation of teaching and learning procedures and processes.

Kenyatta University was awarded ISO 9001:2000 in May 2008 which was also later upgraded to ISO 9001:2008 certification. The Catholic University of Eastern Africa implemented ISO 9001:2008 in August 2011. The researcher targeted these universities to find out the influence of ISO on teaching and learning procedures and processes and found that ISO 9001:2008 has to a large extent influenced the generation and implementation of teaching and learning procedures and processes. From these findings, other universities could now utilize the benchmark.

The study targeted the final year full time students in the schools of education because the investigator was of the belief that these students were in the best positions to provide information on the influence of ISO on teaching and learning procedures and processes. The other targeted groups were the full time lecturers in the faculty of education,

the Heads of Departments and the Directors of Quality Assurance and Standards together with auditors from KEBS.

1.6 Theoretical Framework

This study adopted Systems Theory as advanced by Von Bertalanffy in the 1940's. Von Bertalanffy defines a system theory as a set of components or elements, interacting together towards a common goal (Groenwegen, 1993). Likewise, Were (2003) defines a system as a complex of factors interacting according to an over-all plan for a common purpose. The authors agree that systems must be open and interactive with their environment. An open system receives information and uses it to interact dynamically with its environment. Organizations or institutions such as universities must be open to their environment and must develop appropriate relations with it to be able to survive and perpetuate. Systems theory focuses on the relations between the parts and how they work and interact together as a whole to achieve the desired objectives. The way the parts are organized and how they interact with each other determines the effectiveness of the system. The interrelated and interacting elements within a system are commonly referred to as inputs, processes, outputs and outcomes. ISO 9001:2008 as Quality Management System requires the organization or institution to establish a quality management system to ensure that all activities and processes in teaching and learning meet the specified requirements consistently (Shoki,Sulong, Khalifa &Omari,2008).

Karapetrvics, Rajamani & Willborn (1998) point out that university management system can be defined as a set of interdependent processes such as teaching, learning and resources including human, material and information that function harmoniously to achieve educational objectives. The system has a constant process of taking inputs and transforming them into outputs and outcomes. The inputs are acquired from the environment and the

outputs go back to the environment. Understanding and managing interrelated processes as a system contributes to the institution's effectiveness.

Inputs in this study include the implementation of the ISO principles in teaching and learning procedures and processes which should lead to generation and implementation of these procedures and processes. Inputs also include students who are drawn from the environment. These students or learners are expected to have the necessary qualifications that conform to the university requirements to enter into and remain in approved university education programs. They should have the right disposition towards learning and be disciplined in order to attain the expected goals of education from the system.

The suppliers of goods and services to the students are also considered as inputs such as the university administration and the lecturers. These categories of people have the role to supply resources needed for teaching and learning processes. For effective teaching and learning, learners need to be equipped with adequate learning materials and equipment as required by ISO 9001:2008. The students or learners through the teaching and learning processes are transformed into outputs and they return back to the environment or society having acquired the desired training, knowledge, skills, values, and attitudes for better health and for full participation in social, economic and political transformation in the society (Majawa, 2014).

The goal of a system is its target attainment. Educated persons coming out of the ISO certified university system as outputs and outcomes are expected to have mastered specialized skills to become innovators, inventors, and entrepreneurs for global competitiveness. Massey (1996) summarizes that the ultimate proof of effective teaching and learning is that people will do something that they are expected to do after they have

been taught and learnt. Since the study did not deal with graduates, it could not explicitly establish this kind of transformation. This may call for another study.

1.6.1 Strengths of the Systems Theory

The main advantage of systems theory, like the generic nature of ISO 9001:2008 principles, is its capability of interdisciplinary application. Although it grew out of organismic biology, general system soon branched into most of humanities (Krippner & Laszlo, 1998). The Systems theory focuses attention on the whole as well as on the complex interrelationships among its constitute parts making it a more- all- embracing and comprehensive theory.

System theory is relevant to this study because ISO 9001:2008 is a quality management system within the institutions as systems. Universities are considered as systems and various departments are the elements that must interact and achieve the set goals or the desired outputs and outcomes. The university council is the supreme governing body of the university system. It is responsible for the overall administration of objects and functions of the university (Whole system). It should provide leadership to the other departments or elements for the smooth running of the whole system.

The university senate on the other hand is the chief academic organ of the university and is responsible for the organization, control and direction of the academic matters. It has the powers to make regulations regarding the standard of proficiency to be attained in each examination for a degree, diploma or other award of a university. The teaching staff likewise has the primary responsibility, on behalf of the university senate and the national university education standards and quality assurance body, for ensuring that the standards set for teaching and learning are maintained.

The study supported the system theory in that all the participants were considered as important elements in meeting the requirements of ISO 9001:2008 QMS in teaching and learning processes. The lecturers who participated had the required qualifications to teach in the universities though they are now expected by the Commission for University Education (CUE) to upgrade to PhD by 2018. The study also established that the universities as systems had met requirements of ISO 9001:2008 by generating clear procedures and processes in teaching and learning to achieve the educational objectives. The students who participated in the study also indicated that the facilities are available to facilitate teaching and learning processes though they indicated that some were not quite available and they were also dissatisfied with the implementation of some procedures such as getting feedback.

1.6.2 Limitations of the Systems Theory

The main Limitations of systems theory is that the proponents present their methodologies generally in a flow chart form or in a model. The procedures appear to be mechanistic with precise rules for each stage giving the impression of a more or less linear step by-step process where one step is completed before the next one is commenced (Were, 2003). Another weakness is that the Systems theory does not specify particular theoretical frameworks for understanding problems and it does not give directions to the management on specific interventions strategies. Despite these weaknesses, the system theory is relevant and most appropriate to this study.

1.6.3 Relevance of System theory to the study

The goal of a system is its target attainment. All the elements within a system must function towards achieving the desired goals. The application of System theory in this study helped the researcher to view the setting of the university as a system which should interact to facilitate teaching and learning procedures and processes for attainability of the

goals of education. The interactions of the elements are clearly shown and discussed in the conceptual framework in diagrammatic representation Figure 1.

1.7 Conceptual Framework

The conceptual framework in Figure 1 highlights the key variables and their presumed relationships that the study investigated.

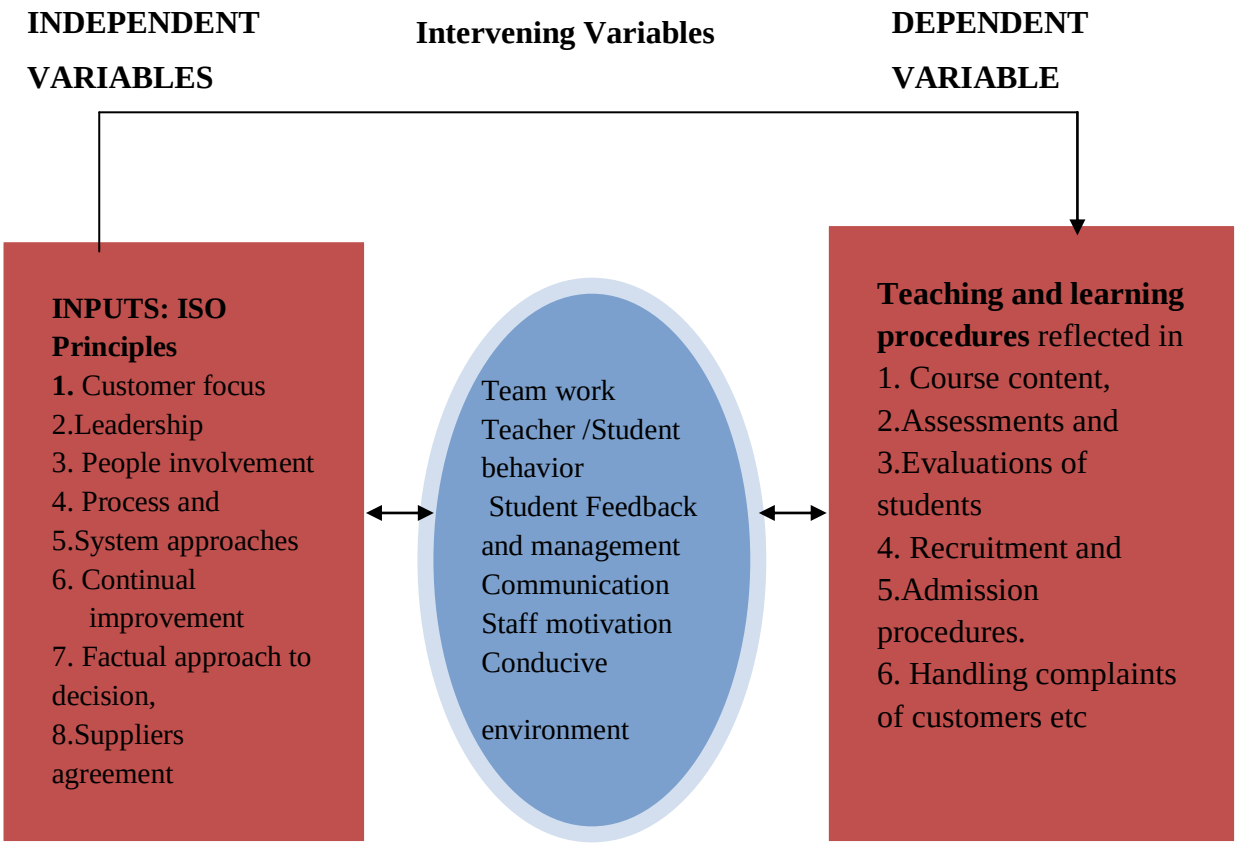


Figure 1: The Conceptual Framework and the Interactions of Variables

(Source: Author, 2016)

This conceptual framework relates the application of ISO principles, students and lecturers, resources and infrastructure as the independent variables while teaching and learning procedures as the dependent variables**.** Effective implementation of the Quality Management principles is expected to lead to effective generation and implementation of teaching and learning procedures and processes to result to quality education reflected in qualified graduates who are satisfied with the education received that meet the market needs.

The intervening variables such as teacher /student behavior, team work, feedback by students and channels of communication and motivation of staff can either influence both the independent and dependent variables or be influenced by the independent and depended variables as indicated by the arrows. Ineffective implementation of the ISO principles and poor communication can result to poor generation and implementation of teaching and learning procedures and processes.

Conformity to the ISO principles in the teaching and learning processes is expected to lead to the desired or expected outputs and outcomes of the teaching and learning processes. These should be graduates that are well rounded and equipped with knowledge and skills necessary for social and economic transformation of a country hence quality education. They should be holistic graduates inculcated with values, morals and principles central to our human existence (Majawa, 2014).

The framework also indicates some of the variables that were used to measure the teaching and learning procedures and processes such as the delivery of planned course content, procedures on assessment and evaluation, procedures of administration of the CATS and examinations, recruitment procedures of the staff and admission procedures of the students to the universities, the provision of qualified lecturers, teaching and learning materials, and infrastructure, provision of financial resources, and well equipped Libraries among other procedures and processes. Non conformity would be reflected by absence of or inadequate provision of the dependent variables already discussed and also by students' feedback.

The ISO principles discussed in the conceptual framework are; customer focus, leadership, people involvement, Process and system approaches, continual improvement, factual approach to decision making and mutually beneficial supplier relationships. Customer focus: -According to ISO 9001:2008, organizations depend on their customers

and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations. However, the term customer is rarely used in the teaching and learning process but in this study, it is taken to mean the students who are the direct recipients of the teaching and learning processes. If education has to achieve its goal, it must focus on the skills attained by the students which will meet the market demands.

Leadership is another principle of ISO. For teaching and learning procedures and processes to achieve the goal of university education, there must be proper leadership. The university senates, academic administrations, deans and Heads of Departments should provide proper leadership for the teaching staff and the students to achieve the objectives of education. They should create and maintain conducive environment in which students and other stakeholders can become involved in achieving the university's objectives.

Process approach too is one of the requirements for ISO certification. It is stipulated that a desired result is achieved more efficiently when activities and related resources are managed as a process. Identifying, understanding and managing interrelated processes as a system, contributes to the organization's effectiveness and efficiency in achieving its objectives (Cianfrani, Tsiakals & West 2010). A university as a system should coordinate and work as a team. There should be clear and transparent procedures and processes for managing the resources, procurements and other facilities in a university for proper accountability in teaching and learning processes. Continual improvement as a principle should be one of the major objectives of any university in order to remain globally competitive and to differentiate one university from another.

Lastly, mutually beneficial supplier relationship is also a principle of ISO. Just like the term customer, mutually beneficial supplier relationship is a terminology that is rare in the

education field. The supplier here refers to the administration who have to supply the educational facilities and the lecturers who are directly involved in the delivery of knowledge. The students are the beneficiaries together with the future employers of the graduates.

1.8. Operational Definitions of key Terms

ISO: This is a set of international standards on quality management and quality assurance developed in 1987 to help organizations or institutions such as universities to effectively document their internal quality management systems and to ensure continuous improvement.

ISO 9001: 2008: One of the latest and generic versions in ISO 9000 series. It is the standard that requires certification among other standards (Cianfrani, Tsiakals and West, 2010).

ISO Certification: The process of universities getting ISO certificate after meeting ISO requirements.

Quality Management System: This refers to a management technique used by institutions to communicate to employees what is required to produce the desired quality of products and services and to influence employee actions to complete tasks according to the quality specifications.

Internal Quality Assurance: This refers to the planned and systematic processes established by an institution to determine and implement the acceptable quality practices in their institutions.

External Quality Assurance: This refers to external assessment by an independent party based on the site visits. It aims at the critical evaluation of the availability and adequacy of the staff, the teaching and learning materials and the relevance of the academic programs.

Influence: The power or the effect of an element over another that affects its behavior. For example effects of ISO certification on teaching and learning processes in educational institutions.

Standard: The criteria by which an institution is judged and evaluated for programs and accreditation by an accrediting body such as Kenya Bureau of Stndards.

Teaching: This is the process that facilitates changes in learners' and it entails showing and demonstrating, guiding and directing the learners' effort in acquiring knowledge, skills, competencies and values.

Learning: This is a process by which learners acquire knowledge, skills, competencies and values that cannot be attributed to the inherited behavior patterns or physical growth.

ISO Process: The act of determining and managing linked activities within an organization or institution in order to produce the desired outcome.

Procedures: Specified ways to carry out activities or processes.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter reviewed related theories to the study together with theoretical and empirical studies guided by the research questions. The literature covered the implementation of ISO with regard to the procedures and processes in teaching and learning, the extent to which ISO certification influences the implementation of teaching and learning procedures, processes and resource and overall quality of infrastructure, the challenges of ISO certification on teaching and learning processes and the strategies to address the challenges. Finally, the study provided a summary of empirical studies and identified the research gap that the study attempted to fill.

2.1.1 Review of Related Theories

In addition to the systems theory adopted earlier in the theoretical framework, the study also reviewed related theories relevant to the study. The theories reviewed are Management by Objectives (MBO) and Total Quality Management (TQM).

2.1.2 Management by Objectives Theory

In addition to the systems theory adopted earlier in the theoretical framework, the researcher found Management by Objectives (MBO) theory relevant to this study as well. Management by Objectives is a process of defining objectives within an organization or institution so that management and employees agree to the objectives. It was advanced by Peter Drucker in 1954 in his book; *The Practice of Management*. The basic principle underlying MBO is that, the teams in the organization, including the management, work towards the achievement of organization's objectives. It calls for mutual agreement among the administrators and the academic staff and all the stakeholders.

This theory encourages active participation in goal setting by all significant stake-holders. Like the system theory, MBO requires that everyone should be conscious of his or her own roles and responsibilities and must work together to achieve the goals of the institution. Setting objectives is a prerequisite for teaching and learning processes to yield the desired outcomes. It is a management tool to ensure accountability for results achieved. If teaching and learning procedures and processes have to achieve the desired outcomes, there must be active involvement of all the players. Principles of ISO 9001:2008 as well as those MBO expect active and effective involvement of all the players in education inclusive of the students.

The philosophy behind the MBO is to ensure that everybody within the organization/institution has a clear understanding of the vision, mission and aims or objectives of that organization/institution. This is also in line with ISO requirement which states that it is the responsibility of the management to communicate the objectives and policies to its members and ensure that each member takes the responsibility to meet the set objectives. Like the system theory, MBO requires that everyone should be conscious of his or her own roles and responsibilities and must work together to achieve the goals of the institution. MBO allows management to focus on achievable goals and attain the best possible results from available resources (Monappa and Saiyadain, 2010).

The council, the senate, in conjunction with all administrative staff should formulate and enact a vision, mission and set objectives for the educational institution that they head or manage. The management has the responsibility to interpret the vision, mission and the objectives of the institution. Quality policies should be made available by the management for what the institution hopes to achieve. The administrative staff should review the policies and objectives and ensure that they are implemented in the respective faculties or departments. The HODs should keep the track on the performance of the lecturers to ensure

that the policies and the set objectives are achieved and that the students are satisfied with the teaching and learning procedures and processes.

While this theory is quite relevant to the study, one major weakness faced by organizations in MBO as cited by Monappa and Saiyadain (2010), is the difficulty in defining objectives. Sometimes faculty objectives can differ from the major objectives of the university and this can create a problem in the attainment of the desired results. Once the organization overcomes this hurdle, the implementation of MBO becomes easier. The study supports MBO as it established that the lecturers who participated in the study were involved in the activities or processes in the universities including decision making hence the requirements of MBO were effectively met in this regard.

2.2 Total Quality Management Theory

Total Quality Management was begun in US during and before the Second World War by Deming- an American Statistician- who believed that the management at all levels was responsible for over 94% of quality problems (Deming, 1982). Deming formulated 14 points plan which he believed that any serious business that adopts and acts on the points could stay in Business. Deming emphasized that the adoption of, and action on the 14 points are a signal that the management intent to stay in business.

Deming's 14 points to management are identified by Baraza (2013) as follows: creating constancy of purpose for continual improvement of products and services and for allocating resources to provide long-range needs rather than short term profitability. The other points are; the movement towards improvement, adopting the new philosophy, ceasing dependence on inspection, moving towards a single supplier for any one item, improving constantly, instituting training on the job, instituting leadership, driving out fear, breaking down barriers between departments, eliminating slogan, eliminating Management

by Objectives, removing barriers to pride of workmanship, instituting educational and self-improvement and lastly, need for transformation by everyone.

Deming's 14 points like ISO 9001:2008 principles are geared towards continuous improvement and customer satisfaction. Effective implementation of these 14 points should result to quality products and services that meet or exceed customer needs. Just like the ISO principles, Deming's 14 points emphasizes on the role of top management in creating a conducive atmosphere for the employees to work as a team without fear to produce desired products or services.

According to Deming, TQM is a method for ensuring that all the activities necessary to design, develop and implement a product or service are effective and efficient with respect to the system and its performance. TQM requires that companies or organizations maintain these standards in all aspects of business by applying the 14 points. These 14 points like ISO principles apply to small or large organizations. It advocates getting information on what customers want in terms of goods and services and providing such goods and services to their customers first time (Parnwell, 2011). It is a philosophy and methodology that assists the institutional management to deal with external pressures by monitoring customer satisfaction (Amanuel, 2009). Initially, like ISO, TQM was only applied in industrial sector but currently, many other sectors including education have realized its importance and are now using it in managing their institutional innovation.

In an educational setting, Amanuel (2009) points out that TQM is a way of managing the whole teaching and learning processes to ensure complete customer satisfaction. In relation to this study, Total Quality Management is relevant in that the quality of teaching and learning have to be continuously improved through application of new technologies and availability of teaching and learning resources embodied in the 14

points. Top management must be committed to providing leadership. They should provide an enabling environment for teaching and learning processes. The curriculum designed should meet the expectations of the learners to satisfy their needs and the needs of the society. The lecturers must be qualified and committed in their service delivery.

Institutions can measure customer satisfaction through their perceptions on availability of qualified and motivated lecturers and other personnel, condition or state of the environment for learning and teaching, course content, assessment and evaluations, the availability of resources to enhance quality in teaching and learning processes among others (William & Golomskii, 1999). The university management needs to continuously examine and ask itself whether it is meeting or exceeding the expectations of their stakeholders. This can be realized through benchmarking. An institution can plan for faculty members together with students to visit other institutions and see how things are being done in terms of meeting or exceeding customer expectations. Benchmarking helps to explain the processes behind excellent performance by analyzing the performance and noting the strengths and weaknesses of the institution and assessing what must be done to improve (Okemasisi, 2015).

In summary, Total Quality Management like systems and the Management by Objectives theories calls for collaboration in organizations or institutions. It uses teamwork approach to empower employees. It stresses that quality is an organizational effort. The top management together with the faculty members is expected to cooperate in order to satisfy the customers both within and without by continuous improvement of their services. The primary customers and beneficiaries in any educational institution are the students whose expectations should be met (Amanuel, 2009). This is in line with ISO requirement which states that the management shall ensure that customer requirement are determined and are met with the aim of enhancing customer satisfaction (ISO, 9001:2008).

2.2.1 Strengths and Weaknesses of Total Quality Management

The Strengths of TQM according to Monappa and Saiyadain (2010) include increased employee participation and morale, cost reduction because of better use of resources resulting from process analysis. Process analysis helps an institution to provide better services to its primary customers, (students) and it increases cooperation across departments.

The main weakness of TQM is high cost of initial training and implementing. TQM like ISO certification process requires a significant training period for employees. Other weaknesses include; leadership failure to understand TQM, lack of institutional commitment; frustration with teamwork; and limited ability to deal with larger issues like budget cuts (William and Golomskiis, 1999). Despite the weaknesses the research found it relevant to the study since it is also a tool for quality management similar to Systems and MBO theories in aiding the organizations or institutions to achieve their expected objectives.

2.3 Influence of ISO 9001: 2008 on Teaching and learning Procedures and processes

The availability of clear procedures and processes in teaching and learning is one of the indicators of the effectiveness of a quality management system (Bevans-Gonzoles & Nair 2004). A process approach according to ISO 9001: 2008 refers to the identification and interactions of the numerous linked activities within an organization or an institution to produce the desired outcome. ISO 9001:2008 requires that each organization or institution determines the processes for the quality management system and their application throughout the organization. The organizations shall also determine the sequences and interactions of these processes and procedures needed to ensure that their operations and control are effective. The organization/institution shall monitor measure where applicable

and analyze these processes and implement actions necessary to achieve planned results and continual improvement of these processes (Guchu & Mwanaongoro, 2012).

In teaching and learning processes, it means that policy documents must be developed, procedures followed and quality data collected in order to measure the performance. While ISO 9001:2008 is adopted by universities with the purpose of assuring quality of their services including that of teaching and learning, ISO is said to be flexible and neither prescribes specific objectives, processes or procedures to the organizations or institutions nor how the institutions should implement their specific objectives (Kiefer, 2003, Cianfrani Tsiakals & West 2010).

According to these authors, ISO 9001:2008 emphasizes on only six procedures namely: document control, record control, internal audit, control of non-conformity products or services, corrective action and preventive action. Document control is a process of making sure that people have access to timely and accurate information to carry out their duties. ISO 9001: 2008 states that a documented procedure shall be established to define the controls needed. A record is a document stating the results achieved or providing evidence of the activities performed. Record control therefore deals with activities or transactions that take place in an organization or institution. ISO requires the organization to establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of the products.

An Audit is a systematic, independent and a document process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria has been fulfilled. Control of non conforming products or services on the other hand aims at identifying products or services that do not meet the needs of customers. Corrective action deals with addressing non-conformities of products or services. Preventive action is the act

of eliminating the causes of nonconformities of products or services in order to continuously improve and add value to the products or services to meet or exceed customer needs.

Baraza (2013) asserts that ISO 9001: 2008 provides room for educational institutions to define quality in accordance to their structures and formulate policies, objectives and manuals based on the structures of the prevailing education system and expectations of the stakeholders. The objectives of a particular institution should however be consistent with continual improvement of the effectiveness of the quality management system.

According to ENQA (2009), the purpose of implementing a quality assurance system in education is to improve the quality of education available to students in Higher Education Institutions (HEIs). It is also to assist institutions in managing and enhancing their institutional autonomy by making a quality assurance more transparent and simpler for everybody who is involved to understand. In order to achieve the teaching and learning objectives, Were (2003) opines that the processes such as program content, teaching and learning strategies or pedagogy employed by the teachers/lecturers, suitable instructional resources or materials, evaluation and feedback must be considered. Were further asserts that feedback is important to check on whether the processes set help to achieve the desired objectives. Additionally, Mayunga (2008), points out that teaching and learning processes are reflected in the form of student assessment and evaluation, staff quality, student profile, facilities and infrastructure, staff development activities and satisfaction of stakeholders among others.

Sohail, Rajadurai, & Rahman (2003) explored the implementation of ISO certification process in Malaysian Higher Educational Institution (HEI), the policies, quality

procedures and practices. These researchers also examined the management system, stages before and after its implementation. Before the implementation of the quality management system, they observed the following features: each course program coordinator claimed that their system was the best and did not want to co-operate with the other coordinators. Each lecturer within a course program had different practices and the approach to the delivery and the use of lecture materials depended on the individual lecturer which resulted in communication barriers among and within course programs coordinators.

Further Sohail affirms that there were no clear job responsibilities and tasks overlapped and eventually caused confusion. There were no standard methods of record maintenance and filing system in most departments which made the traceability of records difficult when required for cross-referencing. After the implementation, they observed that there was improved interdepartmental working relationship, student enrolment, staff and supplier satisfaction and proper documentation of records. The researchers concluded from the study findings that it was a mistake to dismiss the implementation of quality system in an academic institution.

Although Sohail et *al*'s (2003), study compared the processes before and after ISO implementation, coming up with relatively a stronger study, their study was carried out in 2003 a lot may have changed since that particular time. The study also omitted the students who are directly affected by any quality management system in an institution. Further their study was carried outside the Kenyan context. The current study was carried out within the Kenyan institutions of higher learning and also included the students to obtain their perspectives in assessing the influence of ISO certification on teaching and learning procedures and processes.

Singh & Sareen (2006) carried out a survey on 21 Indian educational institutions in an attempt to identify the motives and benefits of the implementation of ISO 9000 in Indian educational institutions. The results were consistent with the previous findings that the adoption of ISO 9000 improved the stakeholders' perception of the institutions as well as improving internal processes, clarification of roles and responsibilities and improved the facilities and led to better quality of students.

A study was carried out by Magutu, Mbeche, Nyaoga, Nyamwenge, Ongeri, & Ogoro, (2010**)** on the quality management practices in Kenyan educational institutions (Case of the University of Nairobi). Their study targeted all the managers that constituted the University of Nairobi's Management Board. The sample consisted of 75 participants. Data were collected using questionnaires and document analysis. Files, office manuals, policy papers and circulars were analyzed. The findings revealed that the University of Nairobi carries out internal auditing, monitors and measures processes to demonstrate the processes ability to achieve planned results. Further the findings showed that University of Nairobi conducts internal audit at planned intervals to determine whether the QMS conforms to the requirements of ISO 9001:2008. The university also monitors information relating to customer requirements. However their study also revealed that the respondents were uncertain about how the University of Nairobi determines, collects and analyses data to assess the suitability of the QMS.

It is to be noted that although Magutu *et al* (2010) researched on quality management practices in educational institutions, their study concentrated on one case only; - the University of Nairobi. The findings of one university cannot be generalized to other universities in Kenya. Their study did not also include the KEBS auditors who oversee to the conformity of ISO requirements in Kenya. The current investigator sampled two public and one private university in Kenya and also included the auditors from KEBS

in assessing the influence of ISO 9001:2008 certification on teaching and learning procedures and processes. The views of these universities are discussed in the findings in chapter four of this study.

A study on assessment of the effects of ISO 9000 certification on quality management of ISO 9000 certified firms in Mombasa County was done by Parnwell (2011). The purpose of the study was to assess the effects of ISO certification on quality management practices. The study included all the 15 ISO 9000 certified companies in Mombasa County. The researcher employed structural questionnaires to collect data. The study found that Total Quality Management was widely used in manufacturing, education and hospitals in Mombasa County and recommended that TQM standards should be applied to all aspects of business. The study also found that there were negative concerns from ISO certified institutions such as complaints on missing results, prolonged programs and student unrest.

Although the findings of the study of Parnwell (2011) are quiet informative to the current study, Parnwell's study did not categorically address the influence of ISO in teaching and learning processes but focused on TQM practices. The study was also silent on the categories of the study participants. Parnwell's study was also limited in its instruments for data collection since it only made use of one instrument- structural questionnaires- to collect the data. The current study assessed the influence of ISO on teaching and learning procedures and processes in Kenyan universities using a variety of instruments such as document analysis, observation guide and interviews in addition to the closed and open-ended questionnaires to corroborate the findings.

A study was done by Baraza (2013) on the influence of ISO 9001 Quality Management Systems Certification on the Competitive Advantage of Kenya's universities

within Nairobi. The aim of the study was to find out whether the universities that had acquired ISO 9001 certification had any competitive advantage. Baraza selected a sample of 231 participants from 3,410 teaching and non teaching staff. The researcher used questionnaires to collect data. The results from the study revealed that there is an effect of ISO 9001 quality management systems certification to the competitive advantage of Kenya's universities. The findings were supported by high correlation between ISO principles and the responses on competitive advantage. The study recommended that universities should embrace quality management system like ISO in an endeavor to give quality and relevant higher education.

Despite the fact that Baraza recommended the adoption of ISO certification in institutions of higher learning, his study concentrated on universities within Nairobi County. The study also like many other studies reviewed, employed only one instrument to collect the data. Additionally, Baraza left out the primary benefactors of a quality management system- the students. The current study included the students and also utilized several instruments and also went beyond Nairobi County to get a broad view on whether ISO 9001:2008 certification influences teaching and learning procedures and processes in institutions of higher learning.

Another study was carried out by Moturi & Mbithi in 2015 on ISO 9001:2008 implementation and impact on the University of Nairobi: a Case Study. The purpose was to present the experience and impact of implementing the ISO 9001:2008 Standard at the University of Nairobi in relation to effectiveness on service delivery, operational performance, automation, challenges of implementation and related emerging issues. The study adopted a case study design based on qualitative analysis of internal audit reports, internal surveys and feedback, surveillance audit conducted by certifying body and rankings by external bodies over a period of seven years. The findings revealed that significant

achievement had been realized with regard to institutionalization of quality into the university processes, work environment, documentation and record management, customer satisfaction, infrastructure and facilities, use of ICT and ranking of the university.

While the study of Moturi & Mbithi (2015) provided a lot of insights to the current study, it heavily relied on secondary data unlike the current study that relied largely on primary data based on face to face interviews and observation guide which enabled the researcher to probe and make clarifications. Further Moturi and Mbithi confined their study on one university making it difficult for the researchers to generalize their findings to other universities.

2.4 Influence of ISO Certification on Teaching Processes

ISO 9001:2008 explains that the organization shall determine the necessary competence for the personnel performing work affecting conformity to product requirement. Where applicable the organization shall provide training or take actions to achieve the necessary competence, evaluate the effectiveness of the actions taken and ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives. The organization or institution is supposed to maintain appropriate records, training skills, and experience of its personnel.

In teaching and learning processes, teachers or lecturers are the key personnel and single most determinants of successful teaching and learning processes (ENQA, 2009). This means that teachers should have required qualifications in an effort to produce the desired outcomes. ENQA further asserts that the most effective learning experience is provided when the teacher is adequately qualified to guide the student while employing the most

effective teaching methodology during the teaching process. The teachers are the most important learning resources available to most students.

According to European Commission Report (2013) the objectives of teaching and learning should promote learners' to develop positive learning outcomes. The Report concludes that the graduate who has gone through high quality teaching and learning processes is expected to be more adaptable, assured, innovative, entrepreneurial and employable in the broadest sense of the term. While a graduate who has gone through mediocre teaching and learning processes has wasted a lot of his / her time and resources and is at a disadvantage in a competitive job market.

The outcomes of quality of teaching and learning processes can be measured by students' ability to acquire knowledge, comprehend, synthesize, and use that knowledge to transform the society (Majawa, 2014). Similarly, Pope Benedict XVI (2011) points out that quality education that aims at the formation of the whole person requires collaborative effort from all stakeholders-teachers, students, parents, policy makers and a broad curriculum that incorporates moral values such as accountability, honesty, peace, love and unity. The question is whether the implementation of ISO 9001:2008 by universities helps effective generation and implementation of teaching and learning procedures to achieve this quality education. This study however, could not exhaustively answer this question and recommended for a further study.

Wangare & Ward (2010), in their research on *Rethinking Staff Development in Kenya's Agenda for the Twenty First Century* observed that the quality of teaching depends on the quality of teachers which in turn depends to some extent on the quality of their professional development. These authors emphasize that the institutions should ensure that

recruitment and appointment procedures of new staff should include at least the minimum necessary level of competence to facilitate and enhance teaching and learning processes.

Further, Ngara (1995) emphasizes that the quality of a teacher in the teaching process is important because teachers can only give what they have. If teachers are of low caliber professionals who do not have sufficient mastery of their discipline, they cannot be expected to perform at the level of excellence. In addition, Were (2003), affirms that an effective teacher is one who motivates the learners to make them actively involved in learning and is also able to manage time well. The instructor is also a good leader and is able to cultivate leadership qualities of the learners. He or she is a role model and an effective communicator and treats learners with respect and dignity.

Similarly, Mbae (2015) in his article "Towards Reforms in Kenya's Values Education" in *Advancing Education: a Challenge to Institutions of Learning* ascertains that teachers are at the centre of any meaningful value education because parents bring their children to the teacher with the expectation that they will acquire not only knowledge but also discipline and character. Mbae explains that for the schools to achieve the goal of social and moral education, teacher training colleges and universities must produce a category of teachers who are competent as persons, as professionals and as role models to handle value education. In the same vein, European Commission Report, (2013) emphasizes that teachers should be able to plan for and deliver knowledge that accelerates progress, deepens understanding and skills of the learners in problem solving.

According to Townsend (1997) there is need for attention to be given to teaching and learning processes from the perspective of the teachers or lecturers because they are professionally responsible for students' learning outcomes. Townsend points out a number of classroom conditions that should be observed in the teaching and learning processes such

as; authentic relationships between the learner and the teacher, expectations set by the lecturer and the institution, performance and classroom behavior, the teachers'/lecturers repertoire- this has to do with the range of teaching styles and models used by the teacher and amended or modified according to student, context, curriculum and desired outcome, resources and preparedness of the teachers/lecturers in accessing a range of these resources or teaching materials and their ability to plan and differentiate these materials. Teaching students well implies that the teacher or the lecturer produces relevant materials for their lessons.

Teachers must be aware that different kinds of teaching methods and educational settings can produce different kinds of learning. According to Were (2003) there are two main teaching strategies namely; expository (transmission) and heuristic (discovery). Examples of methods which fall under expository strategy are: lecture, story- telling, narratives, teacher demonstration, text reading, recitation, note -taking, audio-visual among others. While those that fall under heuristic are: experimental (laboratory), project work, small group work, role play, discussion among others.

Expository strategy leads to rote learning style while heuristic leads to participatory learning style which should be emphasized. Other instructional methods or methods of learning as pointed out by James and Baldwin (2007) include the use of case studies and field trips, industry placements or internships, student exchange and study abroad programs, community based projects, and community and industry involvement and participation.

A study was carried out on the influence of teachers' teaching approaches on students' learning approaches by Beausaet, Segers & Wiltink (2013) in West Indies. The purpose of the study was to investigate how students in secondary education perceive their teachers' approaches to teaching in different disciplines and how that related to their own

learning approaches. Additionally, differences in teaching approaches between mathematics and language teachers were investigated. The study used mainly questionnaires to collect data. Analysis of variance (ANOVA) and analysis of covariance (ANCOVA) were carried out to explore differences in how students in mathematics and languages courses perceived the teaching approaches of their teachers and which learning approaches they consequently adopted.

The results indicated that a teacher –centered approach predicts a surface approach to learning (rote learning) and a student –centered approach predicts a deep approach to learning. The study concluded that when schools aim to support students in developing learning approaches, attention on a school level should be paid to teachers' approaches to teaching. In a similar way, Blumberg and Everett,(2005) assert that Teachers should ensure that they employ learning centered pedagogies in order to increase student engagement with content and long term retention of knowledge. Research show that learning centered helps the students to see how they can apply the content in the future. Students engage the content to make it their own. In that way, they become self –directed long life learners.

Heywood, Joosten and Scarlet (nd) studied on the development of a Quality Management System (QMS) for the teaching and learning processes as experienced by the staff and students and the associate functions that support teaching and learning in Australia. The findings revealed that the application of the Quality Management System resulted into consistent and well documented processes like peer review of courses and course designs, a strong support for corporate leadership via a teaching and learning strategy that is reviewed and enhanced annually, spirit of team work that enhanced continuous improvement of teaching and learning processes and taking responsibility for quality and its evaluation.

While the findings of the researchers are quite informative to the current study, their study was carried out in Australia and not in Kenya. Additionally, the study is silent on the type of the Quality Management System in question. The current study focused on the influence of ISO 9001:2008 certifications on teaching and learning processes and established that implementation of ISO 9001:2008 certification had a great influence on teaching and learning procedures, processes and on the availability of resources and infrastructure.

Daudi, Abdi, Muslim, Sidi, Sidek & Suradi (2012), studied effectiveness of ISO implementation in teaching and learning at UKM-Malaysia. The aim was to establish the extent to which ISO QMS implementation had influenced the quality of academic programs and work instructions. A survey questionnaire was used to collect data from 300 participants. The results from the study indicated that undergraduates are satisfied with the quality management implementation related to the quality objectives and work instructions that supports the management of the academic programs.

While the study of Daudi *et al* (2012) is closely related to this study, it differs in the study context in that their study was carried out in Malaysia and only employed one instrument-the questionnaires-but the current study was carried out in public and private universities in Kenya and employed a variety of instruments that assessed the influence of ISO certification on teaching and learning procedures and processes. The variety of instruments enabled the researcher to have a broad understanding about how implementation of ISO 9001:2008 influences the teaching and learning procedures and processes in universities.

Machingambi (2013) investigated the perceptions of teachers on the implementation of the Performance Management System in one cluster of schools in Zimbabwe. The aim of

the study was to find out how teachers perceived the implementation of the QMS in schools. A case study design which combined qualitative and quantitative methods was employed. Forty senior teachers were purposefully selected to participate in the study. Data were collected using questionnaires and focus group interviews. While Machingambi utilized at least more than one research instrument, the researcher would have randomly selected the participants so that each would have had a chance to participate in order to get a more representative sample of the study participants. The current study used both probability and non probability sampling techniques to ensure adequate representation of the participants for generalization of the findings.

Heras, Cilleruelo & Irad (2008), investigated effects of ISO 9001 in residential homes for the elderly in Spain. The focus of the study was to assess the suitability of the quality-management standard ISO 9001 to the needs of the residential aged- care sector. The study used the survey methodology in the Autonomous Region of the Basque Country, in Spain to ascertain the assessment of 13 local and international specialists with regard to quality-management issues in residential care. The study revealed that there was no significant growth in the implementation of ISO 9001 in the residential aged-care sector but instead ISO increased the workload of care personnel in the initial stages of the implementation. This could mean that the care givers did not probably understand the benefits of the quality management initially and required training.

The study concluded that there was no evidence to suggest that the homes that implemented ISO provided a higher level of quality of care than those that did not do so. While these authors related ISO to service sector like the current study, their focus was on the residential aged-care but the current study focused on teaching and learning processes in selected public and private universities in Kenya and found that ISO has a significant influence in teaching and learning procedures and processes in selected public and private

universities in Kenya determined by above average percentage scores on various items in Likert scales. The study recommends that other universities should make efforts to acquire the ISO 9001: 2008 now 9001:2015 certification and ensure effective implementation of the requirements to achieve educational objectives.

Asnake (2013) carried out a research on *Assessment of Higher learning Education Quality Assurance Guidelines in Public Universities in Ethiopia*. The objective of his study was to assess the implementation of the quality assurance of the Higher Education Relevance and Quality Agency in public universities in Ethiopia. The study used both qualitative and quantitative methods to collect data. The study revealed that there were no enough qualified lecturers, adequate libraries and laboratories for effective teaching and learning process in Ethiopian public universities. Further the study revealed that there was no appropriate management system of the scarce resources.

While Asnake's study is closely related to the current study, it did not categorically deal with the implementation of ISO certification in teaching and learning processes in universities. Asnake's study dealt with the general guidelines of quality assurance. His study also limited itself to public universities in Ethiopia. The current study however dealt with both public and private universities in Kenya and assessed the influence of ISO on teaching and learning procedures and processes in the selected universities. Unlike Asnake's findings, this study found that resources or facilities like the libraries were largely available and the lecturers that participated in the study had largely met the required qualifications to teach in a university.

Similarly, Kipesh & Msigwa (2013) researched on efficiency of Higher learning in Institutions: Evidence from Public universities in Tanzania. The aim of their study was to evaluate the efficiency of public universities in Tanzania in their use of human resources to

produce output measured by the internal revenue generated and number of degrees conferred. The study included seven public universities operating in the country. Data Envelopment Analysis for estimation of efficiency scores was used. The findings of the study showed that public universities in Tanzania are on the average in the use of human resource to produce output measured by the number of undergraduate and post graduate students.

Waswa & Swaleh (2012) researched on *Faculty Opinions on Emerging Corporatization in Public universities in Kenya.* The study employed a survey design to capture opinions from the respondents on the Total Quality Management indicators. Their study targeted the staff from public universities who were registered members of the Kenya DAAD Scholars Association. The current study targeted both public and private universities and focused on teaching and learning procedures and processes. The study employed several instruments such as questionnaires, interviews, document analysis and observation guide that corroborated varied views of the participants unlike Waswa and Swaleh's study which used only one instrument.

Wanjiru (2007), evaluated employee performance appraisal in ISO 9001:2000 certified organization in Mombasa. A total of 15 ISO 9001: 2000 certified organizations were identified through the certification agents, media advertisement and internet articles. Data were collected from all the 15 identified organizations. The study found that the organizations had a formal performance appraisal system but a few of those organizations had not adjusted their performance appraisal to accommodate the Quality Management System. Further Wanjiru's study found that the costs involved in achieving ISO certification and maintaining especially in small organizations are high. Additionally, the study found that employees complained of bureaucracy involved in documenting and accreditation processes. The study concluded from the findings that there was little difference in the way

performance appraisal was carried out prior to and after certification. The current study and Wanjiru's study differ in focus and location. Wanjiru's study was carried out to evaluate performance appraisal in ISO 9001:2000 certified organizations in Mombasa while the current study focused on the influence of ISO in teaching and learning procedures and processes in both public and private universities in Kenya.

The available literature that has been reviewed in this section has pointed out the role and the expected characteristics of the teachers in the teaching and learning processes. While this is important, the literature did not categorically show how the implementation of ISO 9001:2008 certification influenced teaching and learning procedures and processes in public and private universities in Kenya which this study investigated**.** The reviewed literature focused majorly on the performance of the management. The next section reviewed literature on ISO and the learning processes.

2.5 Influence of ISO certification on the learning processes

EDQUAL (2006) asserts that students' participation in the teaching and learning processes should be a powerful driver of quality teaching and learning. There is a need for universities to engage students in developing the teaching and learning framework and ensure that the framework incorporates what quality teaching means for them. Further, EDQUAL points out that students need to be provided with the necessary tools for learning processes such as qualified lecturers, serene environment and appropriate infrastructure among others.

In addition, James and Baldwin (2007**)** explain that students have complementary responsibilities in the teaching and learning processes. They have responsibilities for their personal progress through their level of engagements, commitments and time devoted to study. They also have obligations to contribute to the creation and maintenance of an

effective overall teaching and learning environment. These obligations include collaborating with other students in learning, respecting the view points of others, being reflective, creative, open minded and receptive to new ideas, actively participating in discussions and debates, seeking support and good will from staff when necessary and providing feedback to the university and staff on the quality of teaching and other services.

ISO 9001:2008 standard states that meeting customer requirement is the key determinant of the quality and effectiveness of the system. The organization shall determine and implement effective arrangements for communicating with customers in relation to customer feedback, including customer complaints. With regard to the teaching and learning processes, Amanuel (2009) asserts that the students are the primary customers whose needs must be met. Students are able to provide crucial feedback not only on what works well but also on what they would like to be done differently and how.

A study by Jaafar, Abdulla, Paridathathu & Wan-Ahmad (2011) on Reliability of Students' Feedback on the Course Teaching Evaluation System (CTES) in Malaysia showed that students' feedback was important in identifying the effectiveness of teaching related to the course content, infrastructure, equipment, laboratory and lecturers' teaching competencies. The European Commission Report (2013), asserts that there is need to annually publish feedback of students by the institution concerned indicating the ways in which the institution is responding to useful student insights.

Bae (2007) studied the relationship between implementation of the ISO 9000 quality management system and educational outcomes of schools in USA measured by student achievement on the state mandated tests and school attendance rates-graduation rates. The study employed the Hierarchical Linear Modeling (HLM) technique to collect the data. The sample consisted of 330 schools at the primary level, 157 at the middle level and

112 schools at the high level. The study found that there is no direct relationship between ISO 9000 participation and student learning outcomes on the state-mandated tests but it pointed out that ISO 9000 is positively associated with students' school attendance rates. While the sample in Bae's study consisted of schools of different levels, it had a narrow scope of its sample of the participants. This study had a wider sampling scope that not only included students but also the lecturers, the HODs and the DQA together with the certifying body who provided varied views on how ISO 9001:2008 influences the generation and implementation of teaching and learning procedures and processes in the institutions that participated in the study.

Yaya, Marimon & Casadeusus (2013) investigated on whether ISO 9001 certification affects and enhances the relationships among customers' perceptions of service recovery and consequently customer satisfaction, perceived value and loyalty. An online – based questionnaire was conducted to survey 123 online banking customers who had experienced at least one non-routine encounter while conducting online banking. The findings revealed that service recovery was directly and positively related to customer satisfaction and perceived value, which in turn was found to significantly influence loyalty. Although the customers in the study of Yaya, Marimon and Casadeusus differ from the current study, pertinent issues like customer satisfaction are raised which informed the current study. Nevertheless, the main limitation of Yaya, Marimon & Casadeusus' study like many other studies reviewed is the use of only one instrument unlike the current study which employed several instruments and got a wider perspective on how ISO influences the teaching and learning processes.

Bevans-Gonzales & Nair (2004), focusing on the US vocational institutions, investigated the impact of ISO 9000 in education in nine US vocational institutions. The study used focus groups in the investigation. The focus groups pointed out the positive and

negative impacts of ISO 9000 in education. The positive impact included the leadership efficiency and time enhancement of staff involvement. On the negative side, the focus group revealed that ISO 9000 is time consuming, paper intensive and difficult to interpret and apply to education. The study of Bevans-Gonzales and Nair too employed only one instrument in collecting data. In the current study, the researcher employed mixed methods design and used a variety of instruments such as the observation guide, document analysis in-depth interview guides and questionnaires and got well validated and substantiated findings.

Thonhauser and Passmore (2006), using a quantitative survey methodology examined and compared ISO 9000 implementation in education institutions in two countries the United States and England. The purpose of the study was to examine and to compare ISO 9000 in US and English education institutions. The study employed a cross-sectional telephone survey method to collect data in educational institutions registered to ISO 9000 in USA and England. The survey included only the staff members who were assigned to oversee the ISO implementation processes. The findings revealed that the US educational institutions dropped ISO 9000 registration due to cost and change of leadership.

The decision to drop ISO 9000 was made by a board at the school district level which had a hard time justifying the $7,500-$10,000 annual cost to maintain ISO 9000 registration. An English respondent on the other hand noted that English education institutions had started to drop ISO 9000 due to so many other inspections and since ISO 9000 quality management system is voluntary, it was the one that got dropped. The study of Thornhauser and Passmore focused on comparing ISO 9000 implementation in the United States and England and employed only a quantitative survey instrument. The current study focused on Kenyan universities and employed several research instruments in order to

understand the extent to which ISO influences the teaching and learning procedures and processes including the quality of infrastructure and resources.

A study was carried out in California-USA by Dumond & John (2013) on managing university business educational quality ISO or AACSB? The purpose of the study was to provide insight into quality management for business education. The researchers compared two quality management systems; the ISO 9001 and AACSB. The findings suggest that it is necessary for AACSB to borrow some elements from ISO 9001 components and processes such as standardized auditor training, the use of a third party auditing body and a system of continuous improvement to improve their accreditation processes. The study of Dumond and John (2013) compared two management systems on managing university business educational quality but not on the influence of ISO certification on the teaching and learning processes. The researcher in the current study investigated the extent to which ISO 9001:2008 influences teaching and learning procedures and processes in selected public and private universities in Kenya.

Psomas-Kafetzopoulos (2012) researched on performance measures of ISO 9001 certified and non- certified manufacturing companies in Aginio-Greece by means of the questionnaires. The purpose of the study was to compare ISO 9001 certified companies and non -certified manufacturing companies with regard to performance measures, both financial and non financial. The results revealed that the ISO 9001 certified companies significantly outperformed the non -certified with regard to product quality, customer satisfaction, operational, market and financial performance. While Psomas-Kafetzopoulos' study is positive on the influence of ISO main focus of the study is different from the current study. Psomas-Kafetzopoulos' compared ISO 9001 certified companies and non – certified manufacturing companies but the current study focused on the influence of ISO

certification on teaching and learning procedures and processes in public and private universities in Kenya.

Gotzamani (2010) in Thessaloniki, Greece researched on the anticipated improvement Areas of the ISO 9001: 2000 standard. His study investigated the effects of quality management in accordance with ISO 9000:2000 standards. Specifically it investigated whether certified organizations had witnessed the expected benefits of the revised series of the standards. The study revealed that continuous improvement, higher management involvement and customer orientation were the main improvement areas or benefits. The study of Gotzamani (2010) focused on the anticipated improvement areas of the ISO 9001 certified organizations in Thessaloniki but the main focus of this study was on the influence of ISO certification on teaching and learning processes.

2.6 Influence of ISO on Resources and Infrastructure in Teaching and learning Processes

According to ISO 9001:2008 requirements, an organization or institution shall determine and provide the resources needed to implement and maintain the quality management system and continually improve its effectiveness and enhance customer satisfaction by meeting customer requirements. Accordingly, the organization shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure includes as applicable, buildings, workspace, equipment and supporting services such as transport, communication or information system.

EDQUAL (2006) asserts that the management of infrastructure is important in determining the quality of teaching and learning processes. In teaching and learning processes, Michalska (2009) concurs with ISO 9001:2008 that infrastructure include the quality of the overall buildings, lecture rooms, laboratory facilities, service points such as

the printing and photocopying, the canteen and sport base, condition of the sanitary or environment and recreation facilities. The quality of these infrastructures in the learning and teaching process directly or indirectly affects the outcomes of education. These can be reflected in terms of the place of university in the ranking, achieved prizes, certificates and distinctions, opinion of the accreditation institution, participation in competitions, projects, sports and conferences among others.

There are several studies on the quality of infrastructure in institutions of higher learning. Balague (2007), studied on Libraries in Higher education institutions that had received ISO certification of their quality management system (ISO 9001:2000). The study disclosed that the ISO 9000 series had not been specifically concerned to be applied in Libraries. Similarly, Naser (2010) researched on *Education Quality of Private Universities in Bangladesh: Faculty resource and Infrastructure Perspective.* The study revealed that only a few universities were quality concerned. Most of the universities that participated in the study were depending on part-time lecturers and that faculty recruitment system was not well structured. Further, the study disclosed low satisfaction level of students on campus facilities like the laboratories and library facilities. Similarly the study also revealed low satisfaction level on staff remunerations.

Likewise, Mola (2007), studied the implementation of ISO 9001 in some libraries of institutions of higher learning in Spain. The purpose of the study was to establish whether the implementation of ISO 9001 in higher institutions in Spain had influenced library operations. The study found that ISO implementation is capable of promoting a dynamic continual improvement with clear responsibilities, standardization of work procedures and renewal of the documentation process. Contrary to Balague's study of 2007, Mola concluded from the study that ISO 9001 enhances the efficiency of the libraries. The current research investigated the influence of ISO certification on the quality of the infrastructure in

the selected public and private universities and from the findings, it concurred with the study of Mola (2007) that ISO certification influences the quality of the infrastructure and resources such as the libraries in the selected public and private universities in Kenya.

Shikuku (2015) researched on the role of record management in provision of quality services at Moi University, Eldoret- Kenya. The aim was to investigate the role of record management in the provision of quality services at Moi University with the view of proposing a model that integrates sound record management and quality service provision. Purposive sampling was used to obtain 33 respondents drawn from the main campus. Face to face interviews were used to collect data. The study found that the core business processes of Moi University generated records which were not documented. The study concluded that the poor state of record management negatively impacted on the quality of services provided and was equally an impediment to attaining efficiency and effectiveness of the university business processes. The study of Shikuku (2015) focused on a single case; (Moi University) and concentrated on record management only. The current research focused on three cases; Kenyatta University, University of Nairobi and The Catholic University of Eastern Africa and assessed the influence of ISO 9001:2008 on teaching and learning procedures and processes in these universities.

2.7 Challenges Facing ISO certification on Teaching and Learning Processes

Balague (2007) asserts that implementation of a quality system based on ISO 9001 and its subsequent certification is not a trivial process as it involves resources and commitments. This view is supported by CEPD (2009), when it ascertains that management systems are very time consuming and complex for educational institutions to implement. This is because Government organizations or other regulatory organizations that accredit educational institutions often want very specific information presented in a very specific way and it can take a lot of time for educational institutions to provide this. Consequently,

educational institutions can find themselves forced to spend a huge amount of time and energy preparing for audits by quality assurance organizations.

A number of researchers in the same way agree that defining and relating a QMS in service sector such as education is more challenging than in manufacturing (Sallis, 2002, Mayer *et al* 2011, Naser, 2010, Michalska, 2009). Products in teaching and learning processes such as acquisition of knowledge, skills, and values like honesty, perseverance care, and truthfulness cannot be directly measured (CEPD, 2009). According to Okemasisi (2015), consumers judge service quality by comparing their perceptions of what they receive with their expectations of it. Wanzala (2013) concludes that Quality control and quality assurance remains one of the most critical issues in the revolutionary history of higher education and training despite the existence of regulatory agencies to control and provide the framework upon which the expansion of institutions for higher education should be based. .

Mange, Onyango & Waweru (2015), investigated on the magnitude of challenges facing management of Kenya's public universities and implications for quality of higher education. The aim of their study was to find out the challenges faced by the universities in their quest to provide quality education. The study was carried out in Kenyatta University, University of Nairobi and Egerton University. Descriptive survey design was employed to collect data. A purposive sampling technique was used to select the universities. The deans of schools and Heads of Departments constituted the sample in the three universities. The study found that almost all the universities that took part in the study did not have enough teaching and learning infrastructure and resources especially lecture halls, library spaces, computers and text books. Further the study found that funding was the biggest challenge as it affected all the other areas of research, teaching and learning. The study recommended that the universities and the government establish appropriate, reliable, diversified and

sustainable mechanism for financing university operations in order to achieve the desired objectives.

While the study of Mange, Onyango & Waweru (2015) has enriched the current study on the challenges facing the Kenya's public universities in the quest to provide quality education, it left out the private universities. The inclusion of the private universities would have been appropriate to establish whether they also face similar challenges and what that would imply to the quality of education in the country as a whole. The study also left out significant groups that play critical roles in quality education like the Quality Assurance Bureaus and the lecturers. The current study investigated the influence of ISO 9001:2008 certification on teaching and learning procedures and processes in both public and private universities. The study included the lecturers and the Quality Assurance Bureaus and got their perspectives on the extent to which ISO certification influences the teaching and learning procedures and processes.

Mwangi (2011) investigated on the challenges facing implementation and maintenance of ISO 9001:2008: A survey of selected organizations within Nairobi City in Kenya. The study aimed at establishing challenges in terms of resource constraints; compliance level; customer needs dynamics and employee participation. A descriptive survey design was adopted. A sample of 40 out of 200 ISO certified organizations was selected to participate in the study. Data were collected using semi structured questionnaires. Like the study of Mange, Onyango & Waweru (2015), Mwangi's study found that resource availability, compliance level, customer focus and employee participation were the key challenges in the attainment and implementation of ISO 9001:2008 standards. Mwangi's study like the previous studies had a narrow scope. It only focused on the challenges facing the organizations in implementing ISO 9001:2008 but the

current study focused on the influence of ISO on teaching and learning processes and incorporated challenges in the study.

2.8 Strategies to Addressing the Challenges of ISO in Teaching and learning Processes

In order to address the challenges of ISO certification in any organization, ISO 9001:2008 states that the organization shall continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. Further, the organization shall take action to eliminate the causes of non conformities in order to prevent recurrence (Cianfrani,Tsiakals &West,2010).

It is the management's responsibility to document its quality policy and make sure that it is understood, implemented and maintained by entire organization in order to maintain the system (Nair, 2002). The organization is required to review nonconformities that include customer requirements, determine the causes of non conformities, evaluate the need for action to ensure that non conformities do not occur, determine and implement action needed and record the results and review the effectiveness of the corrective action taken.

ADQUAL (2006) points out that in teaching and learning processes, an institutional policy should focus on key issues such as: improving the teaching and learning processes, establishing goals for the curriculum, developing relevant content, using learning time well, ensuring effective pedagogy, and developing assessment policy, better teacher recruitment, training, salaries , building partnership, developing accountability and combating corruption. Similarly, Townsend (1997) asserts that key elements in quality improvement in teaching and learning processes include strategic planning, allocation of resources and other systematic activities such as quality planning, operations and evaluations.

In an effort to examine the benefits, advantages, disadvantages and success factors associated with ISO 9001:2000 in Portuguese vocational schools, Gamboa and Melao (2012) carried out a research on the impact and success factors of ISO 9001 in education. The study employed a multiple case study strategy and exploratory interviews to define the research objectives. The findings revealed that there are management and staff benefits such as clarification of roles and responsibilities and more organized work procedures. Their study also revealed difficulties such as interpretation of the standard's language, an increase in bureaucracy and a sense of exclusion by some staff.

Gamboa's and Melao's study revealed the strengths and weaknesses of ISO 9001:2000 but did not address the strategies of addressing the challenges facing the implementation ISO certification in teaching and learning procedures and processes in universities. Further, their study employed only one instrument (the in-depth interviews) to collect data. Even though Best and Khan (2000), are of the view that interviews are often superior to other data collection instruments because of their ability to enable the researcher to create rapport with the study participants, and at the same time clarify issues, interviews are limited in terms of generalizations. Mixed methods design would have been more appropriate for Gamboa and Melao's study to enable corroboration of the findings.

The European Commission Report (2013), points out that in order for European universities and schools to maintain teaching standards and remain linked to industry and business, they have taken a proactive measure by implementing specific teaching and learning strategies and have designed mechanisms and instruments to improve the quality of education. Some of the strategies that have been implemented in these institutions include the effective design of curriculum and course content, a variety of learning context including guided independent study, project based learning, collaborative learning, experimentation, soliciting and using feedback and effective assessment of learning

outcomes. Other strategies included are well adapted learning environments and student support services such as well equipped libraries and availability of up-dated computers. This study investigated the strategies that are and could be put in place to address challenges facing ISO certification in teaching and learning processes in the selected public and private universities in Kenya.

2.9 Summary of literature Reviewed and Research Gaps

The summary of the literature clearly indicates that the current study reviewed series of empirical studies on ISO Quality Management System done by various researchers covering international researches done in USA, Europe, and Asia among other countries. It also reviewed regional studies in Africa and local studies done in Kenya. Regardless of where the research was carried out, literature omitted the obvious information on what the influence of ISO 9001:2008 is on teaching and learning procedures and processes in institutions of higher learning. The studies that attempted to link ISO and educational institutions focused on different aspects of education and not on the teaching and learning procedures and processes. This study was an attempt to fill the gap of inadequacy of literature in this regard.

Further, from the studies reviewed, the researchers either used qualitative or quantitative research instruments. They also employed one or two instruments to collect data. The instruments that were commonly used were the structured questionnaires for quantitative data or focus group interviews for qualitative data. Additionally, many of the researchers did not even anchor their studies on theories nor base the studies on one of the latest versions such as ISO 9001:2008. The literature reviewed had very limited scope of study participants. Further still, very limited studies showed the intention of the researcher

coming up with some recommendations or policy guidelines on the future of ISO certification on institutions of higher.

For example regarding the generation and implementation of teaching and learning procedures and processes, Heywood, Joosten and Scarlet (nd) focused on the development of a Quality Management System (QMS) for the teaching and learning processes as experienced by the staff and students and the associate functions that support teaching and learning in Australia. The findings revealed that the application of the Quality Management System resulted into consistent and well documented processes like peer review of courses and course designs. However, their study failed to address the issue of ISO 9001:2008 on teaching and learning processes.

Thonhauser and Passmore (2006), using a quantitative survey methodology examined and compared ISO 9000 implementation in education institutions in two countries the United States and England. The purpose of their study was to examine and to compare ISO 9000 in US and English education institutions. Similarly, Machingambi (2013) investigated the perceptions of teachers on the implementation of the Performance Management System in one cluster of schools in Zimbabwe. The aim of the study was to find out how teachers perceived the implementation of the QMS in schools and not on how ISO 9001:2008 influenced the teaching and learning procedures and processes in institutions of higher learning.

Regarding the influence of ISO 9001:2008 on resources and infrastructure, Balague (2007) studied on Libraries in Higher education institutions that had received ISO certification of their quality management system (ISO 9001:2000). The study disclosed that the ISO 9000 series had not been specifically concerned to be applied in Libraries. Mola (2007), studied the implementation of ISO 9001 in some libraries of institutions of higher

learning in Spain. The purpose of the study was to establish whether the implementation of ISO 9001 in higher institutions in Spain had influenced library operations. Both Balague and Mola focused only on library facilities unlike the current study that assessed the availability of several facilities like internet, text books, and journals among many others.

Naser (2010) researched on *Education Quality of Private Universities in Bangladesh: Faculty resource and Infrastructure Perspective.* The study revealed that only a few universities were quality concerned. While Naser focused only on private universities in Bangladesh, the current study focused on both public and private universities in Kenya.

On the challenges facing the implementation of ISO 9001:2008 certification, Mange, Onyango & Waweru (2015), investigated on the magnitude of challenges facing management of Kenya's public universities and implications for quality of higher education. The aim of their study was to find out the challenges faced by public universities in their quest to provide quality education**.** Descriptive survey design was employed to collect data. Mange, Onyango & Waweru's study left out the private universities and significant groups that play critical roles in quality education like the Quality Assurance Bureaus and the lecturers, the current study included the lecturers and the Quality Assurance Bureaus and got their perspectives on the challenges that face both public and private universities in implementation of ISO 9001:2008.

Mwangi (2011) investigated on the challenges facing implementation and maintenance of ISO 9001:2008: A survey of selected organizations within Nairobi City in Kenya. The study aimed at establishing challenges in terms of resource constraints; compliance level; customer needs dynamics and employee participation. A descriptive survey design was adopted. Mwangi's study like the previous studies had a narrow scope. It only focused on the challenges facing the organizations in implementing ISO 9001:2008

but the current study focused on the influence of ISO on teaching and learning processes and incorporated challenges in the study.

Regarding the strategies to address the challenges Gotzamani (2010) in Thessaloniki, Greece researched on the anticipated improvement Areas of the ISO 9001: 2000 standard. His study investigated the effects of quality management in accordance with ISO 9000:2000 standards. The study revealed that continuous improvement, higher management involvement and customer orientation were the main improvement areas or benefits. The study of Gotzamani (2010) focused on the anticipated improvement areas of the ISO 9001 certified organizations in Thessaloniki but the main focus of this study was on the influence of ISO certification on teaching and learning processes and it also incorporated the strategies that could be employed to curb the challenges.

From this summary of the reviewed literature, it was imperative to study how ISO 9001:2008 influenced the generation and implementation of teaching and learning procedures and processes in institutions of higher learning, employing several research instruments to provide well corroborated results. The researcher incorporated a wide scope of participants, and also anchored the study on related theories. Based on the findings, the researcher was able to make viable recommendations that will inform policy on influence of ISO certifications in institutions of higher learning particularly in public and private universities in Kenya.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes the research design, target population, sample and sampling procedures, research instruments, validity and reliability of the instruments, data collection procedures and data analysis techniques together with the ethical considerations before, during and after the research.

3.2 Research Design

This study employed the mixed methods research designs and methodologies-specifically the Cross-Sectional Survey and Phenomenology. Mixed Methods is defined by Johnson & Onwuegbuzie **(**2004) as the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. The authors assert that the goal of mixed methods research is not to replace either quantitative or qualitative but rather to draw from the strengths and minimize the weaknesses of both in single research studies and across studies. Further, they point out that the use of this methodology also depends on the research questions.

The study employed Concurrent Triangulation Design. This design enables the combination of qualitative and quantitative approaches and provides a more complete understanding of a research problem than any standalone approach. This design was appropriate for this study because it enabled the researcher to employ both quantitative and qualitative instruments in order to collect data from various participants to understand how ISO 9001:2008 influences the quality of teaching and learning processes in the selected institutions of higher learning.

For quantitative part of this study, the researcher employed cross-sectional survey design. The researcher constructed both closed and open-ended questionnaires that were distributed to the full time lecturers and fourth year students in the schools of education from selected universities. This design has an advantage of collecting data at one point in time (Creswell, 2008). The design requires the collection of standardized, quantitative information from all members of a population or a sample (Gay, Mill & Airasian, 2009). This design was appropriate since it enabled the researcher to collect the needed data from the participants in a shorter period of time.

For the qualitative aspect, the researcher used Phenomenological design. Phenomenology is a form of qualitative research design in which the researcher attempts to understand how one or more individuals experience a phenomenon (Creswell, 2014). This design was appropriate to the study since it enabled the study to interact with the study participants through interview sessions in order to understand the extent to which ISO 9001:2008 influences teaching and learning procedures and processes by getting primary information from the HODS, DQA and KEBS auditors. The design also enabled the researcher to analyze relevant documents to the study and to observe the teaching and learning procedures and processes in the selected public and private universities.

The main advantage of using mixed methods designs is that the strategy can result in well validated and substantiated findings. The main weakness is that it demands a great deal of effort for the researcher to adequately study a phenomenon using two separate methods. However, despite the weakness, the study used this design and it enabled the researcher to understand how ISO 9001: 2008 standards influence the teaching and learning procedures and processes in universities that participated in the study. In addition the design enabled the collection of data in a shorter period of time as opposed to employment of one of the sequential approaches.

3.3 Target Population

The target population is that population to which a researcher wants to generalize the results of the study (Mugenda and Mugenda, 2012). It also refers to a larger group from which the sample is taken (Kombo and Tromp, 2013). For this study, the target population was the full time lecturers. All the fourth year students in the schools of education, the Heads of Departments, and the staff in Quality Assurance Bureaus in public and private universities in Kenya and also the auditors from the Kenya Bureau of Standards (KEBS), a certifying body. The rationale behind this selection is that this is the population which is closely associated with the implementation and beneficiaries of ISO 9001:2008 requirements in universities. They are expected to be familiar with and possess knowledge on the influence of ISO certifications in teaching and learning procedures and processes in public and private universities in Kenya.

3.4 Description of the Sample and Sampling Procedures

A sample is a group of individuals, objects, items or cases selected from the accessible target population. Sampling then is the process of selecting a sub-set of cases in order to draw conclusions about the entire population (Kothari, 2004). The researcher employed both probability and non-probability sampling techniques. Stratified and simple random techniques were employed for probability while purposeful for non probability.

3.4.1 Selection of the Universities

The study employed purposive sampling in selecting the universities in this study. McMillan and Shumacher (2001) assert that purposive allows a researcher to use cases that have the required information with respect to the objective of the study. Cases of subjects are therefore hand-picked because they are informative or they possess the required characteristics. The researcher sampled only ISO certified public and private universities with established schools of education possessing pertinent information for the study

namely: University of Nairobi, Kenyatta University and The Catholic University of Eastern Africa.

3.4.2 Selection of the Students

The researcher got the sampling frame from each of the selected universities to determine the population of the fourth year students from the schools of education. The fourth year students were sampled because they have been in their universities and have interacted with lecturers and the management for a longer span of time. The researcher was of the opinion that these students were in the best position to provide information on the influence of ISO in the quality of teaching and learning processes.

After getting the sampling frame, the researcher grouped the students in terms of gender to ensure gender representation. Kothari (2004), clearly states that if a population from which a sample is to be drawn does not constitute homogeneous group, stratified sampling technique is generally applied in order to obtain a representative sample. It is after stratification that the items can be selected from each stratum to constitute a sample. The researcher employed simple random sampling to select 10% of the students from each sampled university. According to Gay, Mills and Airasian (2009), the minimum sample size depends on the type of a research involved. For a cross-sectional survey research, they suggest that a sample of 10% to 30% of population is acceptable. While for qualitative research, Boeije (2010) affirms that even a single case is appropriate since each case typically generates a large amount of information.

The researcher used a simple random technique to get 10% of students from each university aided by Tippett's random number table as explained by Kothari (2004). Tippett gave 10400 four figure numbers. He selected 41600 digits from the census reports and combined them into fours to give his random numbers which may be used to obtain a

desired random sample. The numbers can be randomly read from any direction left to right until the desired sample is reached. The study randomly selected a sample of 300 students from the population of about 3009 fourth year full time students from the faculty of education from KU, 60 students from the population of 596 from UoN-Kikuyu Campus and 20 students from the population of about 198 fourth students from CUEA. A total of about 380 students were projected to participate in the study. The Summary of the students' sample size is presented in Table 1.

***Table 1*: Students' Sample Size**

University	**Total population**	**10% sample**
Kenyatta University	3009	300
University of Nairobi	604	60
The Catholic University	198	20
Total	**3811**	**380**

Source*: Universities' Registry offices*

3.4.3 Selection of the lecturers

The researcher in the same way got the sampling frame of the lecturers from the selected universities and was able to stratify them based on their gender and randomly sampled 10% of full time lecturers from the two public universities and 20% from the private university to increase their participation. The researcher projected 30 lecturers from KU and also from UoN and 10 from CUEA. A sample of 70 lecturers was projected to participate in the study. The lecturers were targeted because they are the implementers of the ISO 9001:2008 requirements in teaching and learning processes. They are in position to explain the extent to which ISO influences the generation and implementation of teaching and learning procedures and processes.

3.4.4 Heads of Departments

The study used Purposive sampling to get one Head of Department from each selected universities. McMillan and Shumacher (2001) point out that purposeful sample may range from 1 to 40 cases. While Kombo and Trom (2013) assert that the power of purpose sampling lies in selected information rich-cases for in-depth analysis related to the central issues being studied. The head of departments were sampled because they are charged with the responsibilities of ensuring that teaching and learning procedures and processes are generated and implemented according to the ISO 9001:2008 requirements.

3.4.5 Directorate of Quality Assurance

The researcher similarly employed purposive sampling technique to get the Directors of Quality Assurance Officers to participate in the study. The DQA Officers have the responsibility of auditing the processes in their respective universities to ensure that the quality policies and quality objectives and procedures are implemented to meet the requirements of the Quality Management System. They are the watchdogs of quality management systems and so they were pertinent to this study which assessed the influence of ISO 9001:2008 standards on teaching and learning procedures and processes in public and private universities in Kenya.

3.4.6 Auditors from Kenya Bureau of Standards

An Auditor from Kenya Bureau of Standards (KEBS) was purposefully selected to participate in the study according to the auditing experience in institutions of higher learning. KEBS is the independent accrediting body that audits the procedures and processes in both production and service sectors and ensures that the institutions meet the required ISO standards. Their participation therefore provided valuable information in this study. The sampling techniques are summarized in table 2.

Table 2: Summary of the Sampling Techniques

Target group	total population	sampling technique	sample size (10%)	
Students	3803	stratified and simple random	380	10
Lecturers	700	stratified and simple random	70	10
HODS	15	purposive	3	100
DQA	3	purposive	3	100
KEBS	1	purposive	1	100
Total	**4522**		**457**	

3.5 Description of Research Instruments

Research instruments are the techniques or methods used to collect data for the study (Kasomo, 2007). Since this study employed a mixed methods design, the researcher used several instruments to collect data from different participants. The instruments were: Questionnaires, structured interview guides, document analysis and observation guides.

3.5.1 Questionnaire

Questionnaires are suitable and more appropriate for a large sample than interview and also suitable for literate participants (O'Leary, 2010). The study used closed and open-ended questionnaires for full time lecturers and students since they constituted a larger sample than the HODS, KEBS and the DQA in the study. Each group had their own questionnaires based on their unique functions in the study.

3.5.2 Questionnaires for Students

The questionnaires were constructed based on the research questions. Part A sought data on the demographic information of the students. Part B obtained data on the procedures

on the teaching and learning process. Part C collected data on the influence of ISO on the implementation of teaching and learning procedures and processes and Part D on influence of ISO certification on resources and infrastructure in teaching and learning processes while Part E sought data on challenges facing ISO certification on teaching and learning processes and lastly, Part F obtained data on strategies that are and could be in place to address the challenges facing ISO certification in teaching and learning procedures and processes.

3.5.3 Questionnaires for lecturers

The lecturers' questionnaires were also constructed based on the research questions. Part A obtained data on the demographic information of the lecturers. Part B on procedures in teaching and learning, Part C collected data on the influence of ISO on implementation of teaching and learning procedures and processes and Part D sought data on the influence of ISO certification on infrastructure of teaching and learning processes while Part E on challenges facing ISO certification and lastly, Part F obtained data on strategies to address the challenges facing ISO certification in teaching and learning processes.

3.5.4 Interview Guide for HODS

An interview is a technique of collecting information in which the researcher asks the participants to respond to a number of questions in a face-to-face or on-line conversation. In-depth interview guides were appropriate instrument for the HODS, because like the DQA and KEBS, they formed a relatively smaller population in this study. The study developed a semi-structured interview guide with both open and closed-ended questions for the HODS based on the research questions.

Part A sought information on the demographic information of the participants. Part B collected in-depth information on teaching and learning procedures and Part C on the influence of ISO on the implementation of teaching and learning procedures and processes.

Part D collected data on the availability of resources and quality of infrastructure and Part E on challenges facing ISO certification on teaching and learning processes and how the challenges could be addressed.

3.5.5 Interview Guide DQA and KEBS

The research in a similar way developed a semi-structured interview guides with both open and closed-ended questions for DQA and KEBS because they too formed a relatively smaller population in this study. The study developed separate interview guides for each of these categories of participants because each group contributed uniquely to the study. The interview guides were constructed based on the research questions as well.

Part A sought information on the demographic information of the participants. Part B collected in-depth information on teaching and learning procedures and Part C on the influence of ISO on the implementation of teaching and learning procedures and processes. Part D collected data on the availability of resources and quality of infrastructure and Part E on challenges facing ISO certification on teaching and learning processes and how the challenges could be addressed.

3.5.6 Document Analysis Guide

Documents are written materials that can be read and are related to some aspect of the social world (Creswell, 2014). Document analysis is the study of documentary evidence available in order to obtain desirable data for research (Kaahwa, 2008). The relevant documents that were analyzed among others were records of faculty staff and the list of fourth year students from the faculty of education which helped the study to determine student: lecturer ratio, the course outlines, class attendance lists, policy papers covering examination procedures and processes, the recruitment of faculty staff and student admissions to the universities in addition to the academic calendars and the Quality

statements. These documents aided the study in determining the extent to which the selected universities met the requirements of ISO 9001:2008 in teaching and learning procedures and processes as discussed in chapter four.

3.5.7 Observation Guide

Observation tool involves the researcher (observer) to directly be present at the natural setting and take notes of an activity, a behavior, relationship or process (Kaahwa, 2008). According to Denscombe (2010), the use of observation guide has the potential to yield more valid or authentic data than would otherwise be the case with inferential methods. The researcher was able to observe the sizes of the lecture halls and the ventilation status, the methods that were being used in teaching and learning process, the interactions between the lecturers and students and teaching resources and equipment such as the use of projectors and smart boards and libraries and made short notes that aided the interpretations. Observation helped the research to triangulate the findings thus reducing chances of subjectivity. The researcher also toured around the selected universities guided by the research assistants and further observed the general infrastructure such as the supporting services like service points and the canteens, transportation, internet facilities within the campuses, cleanliness of the campuses among others.

3.6. Validity of Research Instruments

Validity of instrument is the degree to which the instruments measure what they are meant to measure in the research (Kaahwa, 2008).

While research shows many types of validity such as criterion validity, face validity, construct validity and concurrent validity, the researcher only focused on face and content validity in validating the instruments. The researcher validated the quantitative research instruments by consulting the experts and also distributing the instruments to the colleagues at The Catholic University of Eastern Africa and Moi University. These were asked to

assess the relevance and validity of the instruments and make comments, corrections and detect any contradictions. The suggestions were incorporated in validating the instruments. Regarding qualitative validity, the researcher used member check strategies by reading out the notes back to the participants who determined the accuracy, dependability, conformability and credibility of the information (Creswell, 2014). The researcher also used a rich, detailed description and direct quotations which aided in validating the qualitative part of the research.

3.6.1 Pilot Testing

Pretesting research instruments is a process of trying or piloting draft tools in the field before the actual data collection starts (Mugenda & Mugenda, 2012). The researcher pre-tested the instruments particularly the questionnaires using at least 10 lecturers and 30 students who were not part of the study sample. The researcher then held a debriefing session with the participants after completing to fill the questionnaires to get the feedback. This was done in the second week of February 2016. After piloting the instruments the researcher calculated the reliability coefficients of the Likert scale questions set to the teachers and students using SPSS to get the Cronbach's Alpha. The teachers' questionnaire reliability coefficient was Cronbach's Alpha 0.84 while that of students' questionnaire was Alpha 0.85. To confirm the credibility of these coefficients, refer to the tables of reliability analyses at appendices H and I.

3.6.2 Reliability of Research Instruments

Reliability is defined as the degree to which the instrument consistently yields the same results when repeated measurements are taken of same subjects under the same condition (Stringer, 2008,) Reliability also means the degree to how consistent a research instrument is dependable (Kasomo,2007). Just like validity, there are several types of

internal reliability measures such as split half; Kuder-Richardson Formula 20 (K-R 20) and Cronbach's Alpha formula **(**Mugenda and Mugenda, 2004).

3.6.3 Reliability of Quantitative Instruments

The major categories of reliability for quantitative research instruments are; test-retest, equivalent form, and internal consistency. Test-retest measures consistency from one time to the next. Equivalent-form measures consistency between two versions of an instrument while internal-consistency measures consistency within the instrument (consistency among the questions (Siegle, 2002). There are several internal consistency methods. These include split half; Kuder-Richardson Formula 20 (K-R 20); and Cronbach's Alpha. The researcher opted to use Cronbach's alpha method because it requires only one testing session (Mugenda and Mugenda, 2004). All items are compared with each other, rather than half of the items with the other half of the items.

Cronbach's alpha reliability coefficient normally ranges from 0 to 1 (Mugenda & Mugenda, 2012). The closer Cronbach's alpha coefficient is to 1, the greater the internal consistency of the items in the scale. The following is generally the rule of thumb: $r \geq 9$ is excellent degree of reliability $r \geq .8$ is good reliability $r \geq .7$ is acceptable, $r \geq .6$ is questionable, $r \geq .5$ is poor, and $r < 5$ is unacceptable (where r stands for reliability coefficient). Since both the reliability coefficients were found to be greater than 0.7 the instruments were deemed reliable for use.

3.6.4 Reliability of Qualitative Instruments

Qualitative reliability indicates that the researcher's approach is consistent across different researches and different projects (Creswell, 2014). Qualitative reliability is enhanced if the researcher obtains detailed field notes, by employs a good-quality tape for recording and transcribing well to make sure that the transcribed data do not contain obvious mistakes. In addition, reliability can also be enhanced through cross-checking

codes developed during the analysis. The researcher ensured that transcripts were checked thoroughly to avoid obvious mistakes.

3.7 Description of Data collection Procedures

In research, data collection procedures refer to the collection of information to prove or refute some facts (Kombo and Tromp, 2013). According to the Publication Manual of the American Psychological Association (APA, 2010), before embarking on data collection, the researcher is expected to get permission from relevant authorities. After the defense of the proposal, the researcher made all the corrections and presented the corrected proposal to the supervisors who proof read and therein endorsed their signatures.

The duly signed proposal was then submitted to the HOD school of postgraduate studies who in turn issued a letter that allowed the researcher to collect data. Using the letter from the institution, the researcher applied for permit from National Commission for Science, Technology and Innovation (NACOSTI) as required by the government of Kenya. After getting the research permit, the researcher made applications to the selected universities to be permitted to collect data (All the letters together with their responses are found in appendices).

After getting the permission from the relevant authorities, the researcher assisted by the research assistants trained earlier on ethical considerations and other logistics embarked on distribution and collection of the questionnaires. The researcher conducted all the interviews by herself. Each interview took 40 to 50 minutes. The researcher asked permission from the interviewees to take notes and also to use a tape recorder during the interview sessions. While each interviewee was comfortable with the note taking, they were not comfortable with tape- recording even after being assured of confidentiality. The researcher respected their feelings and did not record their voices. The researcher also made

the observations together with analysis of relevant documents in person. The research assistants largely assisted in the distribution and collection of the questionnaires from the lecturers and the students. This method enabled quick and concurrent collection of both the quantitative and qualitative data and also ensured high rate of return of the questionnaires.

3.8 Description of Data Analysis Procedures

Data analysis is the process of cleaning, coding and summarizing data so that it becomes information that can be easily interpreted and conclusions made to support decision making (Mugenda and Mugenda, 2012). The researcher analyzed data using procedures or techniques for both quantitative and qualitative data designs.

3.8.1 Analysis of Quantitative Data

Quantitative analysis is a process that requires the researcher to manage and organize raw data; systematically code and enter the data into the computer; engage in reflective statistical analysis using computer programs (Creswell, 2014). The researcher analyzed all the demographic and all variables in the Likert scales using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics such as frequencies and percentages were used to summarize the data. The researcher summarized and presented the data using Tables, bar charts as well as pie-charts.

3.8.2 Analysis of Qualitative Data

Qualitative analysis is primarily an inductive process of organizing data, transcribing data into segments, coding, describing and categorizing data, and developing patterns (Creswell, 1998). Qualitative data analysis approach was used to analyze data which was collected from the interviews. The following steps were employed in the analysis as described by Cohen *et al* (2011). First the researcher took short notes with prior consent from the respondents. The notes aided in the final interpretation of the study.

Secondly the researcher engaged in the coding and transcribing exercise. Coding involved grouping units, clusters, groups, patterns, and coherent sets to form domains. A domain is any symbolic category that includes other categories (Cohen *et al*, 2011). Categories are the key features of the text showing links between units of analysis. The researcher was able to form categories or themes on the influence of ISO 9001: 2008 from perspectives of the participants guided by the research questions. Thirdly the researcher then reduced the categories to manageable proportions while maintaining fidelity to essential content of the data to ensure that data maintained and retained the meaning and richness. Lastly, the researcher was able to identify and report key factors and concepts of the influence of ISO 9001:2008 standards on teaching and learning procedures and processes.

3.9 Ethical Considerations

Ethics is defined by Mugenda & Mugenda (2012) as the branch of philosophy which deals with one's conduct and serves to guide one's behavior. According to Publication Manual of the American Psychological Association (APA, 2010), before embarking on data collection, during and after data collection, the researcher is expected to put into considerations a number of ethical issues. These ethical considerations have been echoed by a number of researchers for example: (Kombo & Tromp, 2013, Mugenda & Mugenda 2004, Boeije, 2010) among others. They include; getting permission and the informed consent from the participants, voluntary participation, confidentiality or privacy, protection from physical and mental stress, harm or danger and giving credit to those who have aided the researchers in the investigation among others.

The researcher ensured that the participants were informed about the study by visiting the selected institutions and meeting the relevant authorities. The researcher explained the academic nature of the study. Boije (2010) emphasizes that a researcher has

the obligation to outline fully the nature of the data collection and the purpose for which the data will be used to the people or community being studied. In addition, the researcher also attached a letter to the questionnaires that explained what the research was all about and also asked for their consent. The letter indicated that participation was strictly voluntary so they were free not to participate.

The principle of anonymity was observed by asking the participants not to indicate their names on the questionnaires. Kombo and Tromp (2013) emphasize that the researcher must maintain confidentiality all the time. The researcher ensured that the information given during data collection was kept confidential and all sources were acknowledged as required by the APA, 2010. After data collection, the researcher sought the consent of the participants before revealing any information deemed necessary to avoid causing any harm to the participants (O'Leary, 2010). The researcher together with the research assistants avoided at all costs the use of threatening language that could cause fear, harm and anxiety to the study participants (APA, 2010

CHAPTER FOUR

PRESENTATION, INTERPRETATION AND DISCUSSION OF THE FINDINGS

4.1 Introduction

This chapter presents the findings of this study based on the data collected through various instruments; questionnaires, interview guides, document analysis and observation guide. The chapter is organized into several sections. The first section discusses demographic information of the study participants while the other sections are discussed according to the research questions. These sections discussed the procedures generated in teaching and learning processes, the extent to which the procedures were implemented in meeting ISO 9001:2008 certification requirements, the influence of ISO on the quality of resources and infrastructure, the challenges and strategies of addressing the identified challenges in both public and private universities in Kenya. Regarding qualitative data, the researcher largely employed detailed or thick descriptions that included direct quotations in reporting the findings.

4.1.2 Response Rates of the Various Categories of the Study Participants

The study had sampled 380 fourth year students from the faculty or schools of Education. 70 full time lecturers, 3 Heads of Departments and 3 Quality Assurance Directors from three selected universities that had implemented ISO 9001:2008 for at least five years or so within Nairobi and Kiambu Counties in Kenya. These universities are; University of Nairobi, Kenyatta University and The Catholic University of Eastern Africa. In addition, the study sampled one officer with auditing experience in institutions of higher learning from Kenya Bureau of Standards. The response rates of the various categories of the participants are shown in Table 3.

Table 3: The Return Rate of the Study Participants by Category

Category	Expected Sample	Actual sample	Percentage
Students	380	372	97.8
Lecturers	70	56	80
DQA	3	3	100
HODS	3	3	100
KEBS	1	1	100
Total	**457**	**435**	**95.5**

Table 3 indicates the high rate of responses from the study participants. This could be attributed to the effective data collection methods. The researcher together with the research assistants planned with the participants when to distribute and collect the questionnaires. The participants co-operated in this regard thus enabled quick collection of the valid questionnaires. The high rate of the responses could also be attributed to the willingness of the respondents to participate in the study and the commitment of the research assistants. The participants may have also found the study relevant to them. They may have wished to know how ISO 9001:2008 influences teaching and learning processes in the universities that participated in the study.

Gay, Mills & Airsian (2009) assert that the higher the percentage of returned questionnaires, the better the study. Although the return rate of the questionnaires from both the students and lecturers was high, the researcher was unsuccessful in getting back all the questionnaires. Those who did not return their questionnaires were either not identified, were absent at the time of collection or had otherwise misplaced the questionnaires but they were not victimized since participation was strictly voluntary.

4.1.3 Demographic Characteristics of the Study Participants

The researcher sought to establish the demographic characteristics of the study participants in terms of gender, age, working experience, level of education, the type of the university and their nationality to help the study to establish whether there was a

relationship between some of the demographic characteristics and the influence of ISO 9001: 2008 on teaching and learning procedures and processes.

4.1.4 Gender of the Study Participants

The participants were asked to indicate their gender in order to find out the representation of both sexes in the study. Table 4 shows the study findings:

Table 4: Distribution of lecturers and students by Gender

	Lecturers		**Students**	
Gender	**F**	**%**	**F**	**%**
Male	36	64.3	241	64.8
Female	20	35.7	131	35.2
Total	**56**	**100**	**372**	**100**

The study established that 36 (64.3%) of the lecturers were male and 20 (35.7%) were female. With regard to students' gender, 241 (64.8%) were male while 131 (35.2%) were female. The findings show that there were more male lecturers and more male students than their female counterparts who participated in the study. Further, the study interviewed three officers from Quality Assurance Bureaus and three HODS one from each university and the situation was similar. Of the three DQA interviewed, only one was female. Similarly, out of the three HODS only one was female. The results show that there is still gender disparity in universities that participated in the study. However, the study did not establish whether gender influences the generation and implementation of teaching and learning procedures and processes this may call for another study.

4.1.5 Distribution of Study Participants by Age

The study was interested in determining the age of the study participants in order to establish if age was a contributory factor regarding the influence of ISO in the quality of teaching and learning processes in the selected universities. The participants were asked to

indicate their age brackets and the findings are summarized and presented as shown in Table 5.

Lecturers (N=56) Students (N=372) F=**Frequency %=Percentage**

Table 5: Distribution of the lecturers and Students by Age

Lecturers		
Age brackets	**F**	**%**
25-30 yrs	2	3. 6
31-35 yrs	12	21.4
36-40 yrs	6	10.7
41-45 yrs	16	28. 6
46-50 yrs	18	32. 1
Above 51 yrs	2	3. 6
Total	**56**	**100.0**
Students	**F**	**%**
22 years and below	148	39. 8
23-27 years	151	40.6
28-31 years	31	8.3
32-35 years	16	4.3
Above 36 years	26	7.0
Total	**372**	**100.0**

Age brackets of lecturers showed that 18 (32.1%) were aged between 46 and 50 years, 16 (28.6%) fell under the age brackets of between 41 and 45 years, 12 (21.4%) were in the age brackets of between 31 and 35 years, 6 (10.7%) were aged between 36 and 40 years, 2 (3.6%) were aged below 30 years and 2 (3.6%) were aged above 51 years. The findings show that 93% of the lecturers who participated in the study are between the age brackets of 31-50 years. The lecturers are still in their prime age to develop their profession through continuous training. They are also able to appreciate how the implementation of a QMS can influence the quality of teaching and learning processes in order to produce graduates who are of high quality to transform the society.

With regard to the students, the findings show that 151 (40.6%) fell in the age brackets of between 23 and 27 years. 148 (39.8%3) were in the age bracket of 22 years, and below indicating that 299 (80%) were below 28 years while 20% were above 28 years. The age brackets is in conformity with the Kenyan system of education (8:4:4) where students complete their Kenya Certificate of Secondary Education (K.C.S.E) and join a university after 18 years of age and complete when they are about 22 years thus accounting for the highest percentage. Some students however, do not proceed to university immediately after completion of their K.C.S.E and join much later thus accounting for the 20%. With regard to the students' age bracket, the researcher is of the view that most of the students are young people who study and interact with lecturers for at least four years in a university and therefore were better placed to give reliable information on quality teaching and learning processes in their respective universities.

The researcher was also interested in finding out the work experience of the lecturers, the HODs, DQA and KEBS representative who participated in the study. The researcher wanted to know whether their experience contributed to the way they implemented or audited the ISO 9001:2008 requirements in the teaching and learning processes. The information on the lecturers working experience is summarized in Figure. 2

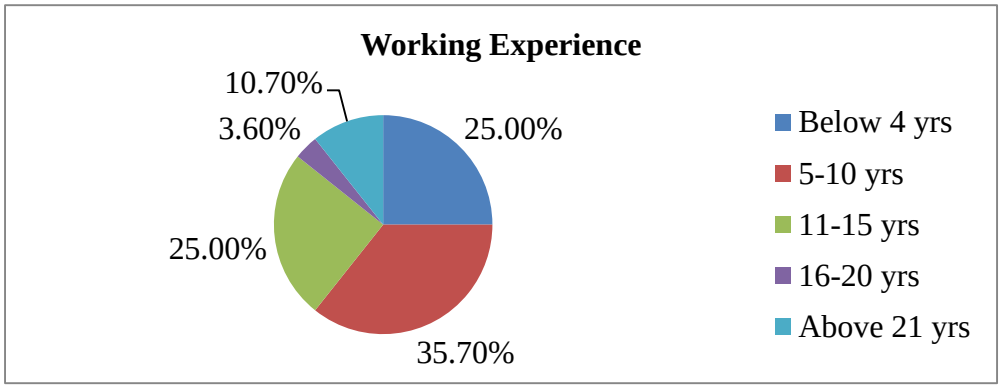


Figure 2: Work Experience of the lecturers' n= 56

The findings established that 20 (35.7%) of the lecturers had been teaching in their current universities for between 5 and 10 years, 14 (25.0%) had a teaching experience of below 4 years, another 14 (25.0%) had been teaching in their current universities for between 11 and 15 years, 6 (10.7%) had a working experience of over 21 years and 2 (3.6%) had been teaching in their current universities for a period ranging from 16 to 20 years. The findings indicate that 88% of the lecturers have been working in their respective universities for five years and above. Consequently, this percentage of lecturers has the experience of teaching and learning processes both before and after the institutions' ISO certification. The lecturers' responses reflect their honest and accurate experiences concerning the influence of ISO 9001:2008 on the quality of teaching and learning processes.

With regard to the work experience of HODS, DQA and KEBS, the findings are summarized in Figure 3.

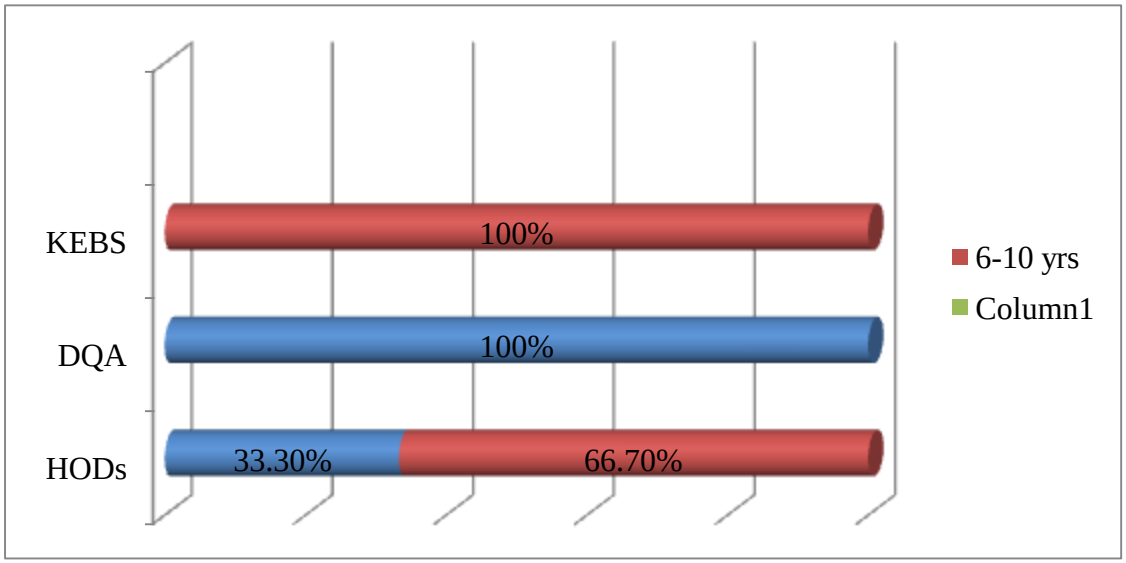


Figure 3: Work Experiences of HODS, DQA and KEBS

Figure 3 shows that of the three DQA interviewed by the researcher, all had the work experience of between 0-5 years. The figure also reveals that of the three HODs who

participated in the study, two had a working experience between 6-10 years while only one from the private university had the working experience of 0-5 years. The representative from KEBS had a work experience of 6 to 10 years. The findings clearly show that the HODS had more years of work experience compared to the DQA. Experience of less than five years makes it doubtful that these DQA have gained clear understanding of auditing teaching and learning procedures and processes generated by the HODS.

4.1.6. level of education

The researcher further sought information on the highest level of education of the lecturers together with the HODS, DQA and KEBS representative. The reason was to find out whether level of education had positive impact on the way these categories of the study participants either audited or implemented ISO 9001: 2008 certification requirements in teaching and learning processes in their respective institutions.

The lecturers' level of education was summarized and presented as shown in Figure 4

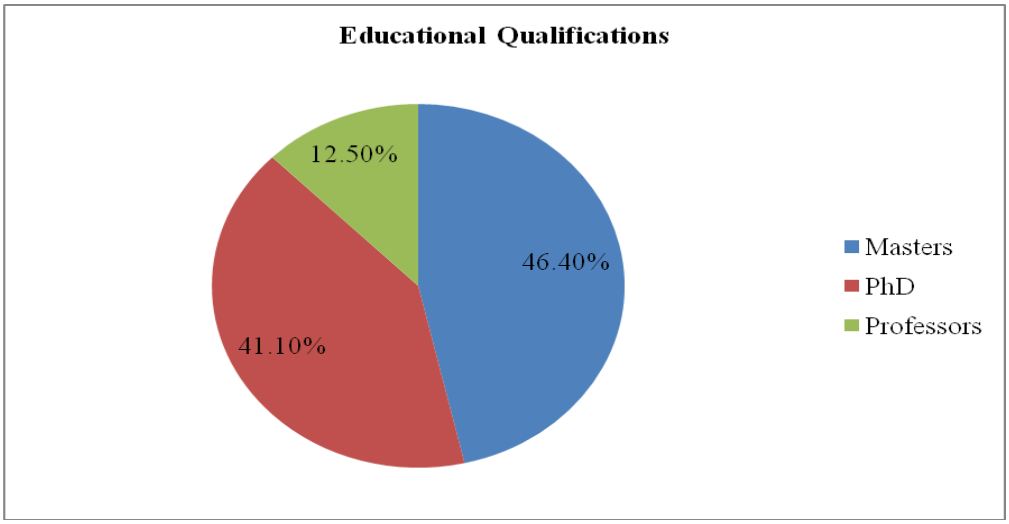


Figure 4: Lecturers' Level of Education

Figure 4 shows that nearly half of the lecturers 26 (46.4.0%) are holders of Masters Degree, 23 (41.1%) are PhD holders and 7 (12.50%) are professors. The study findings

show that all the lecturers who participated in the study had attained a minimum requirement of teaching at the university which is a master's degree. However, the current policy in Kenya according to Commission for University Education requires that all lecturers should have a PhD in order to teach at the university. This is to ensure that students are being taught by qualified lecturers who understand the need to promote quality education.

This is confirmed by ENQA (2009) which asserts that in teaching and learning processes, teachers or lecturers are the key personnel and single most determinants of successful teaching and learning processes. This means that teachers should have required qualifications in order to produce the desired outcomes. Ngara (1995) concurs with ENQA when he emphasizes that the quality of a teacher in the teaching process is important because teachers can only give what they have. If teachers are of low caliber professionals who do not have sufficient mastery of their discipline, they cannot be expected to perform at the level of excellence.

With Regard to HODS', DQA' and KEBS' level of education, all the HODS who participated in the study were PhD holders and were also part of the teaching fraternity in their respective universities. This was different from the DQA and KEBS. Out of the three DQA interviewed, only one was a PhD holder the other two together with KEBS auditors who had masters' degrees. From the findings it is clear that all the HODS were more qualified than some of the DQA and KEBS. This could be attributed to the job specifications and requirements for these positions. Since the findings show that HODS hold higher qualifications than some of the DQA and KEBS, who by the virtue of their offices are expected to audit the documents and records in the teaching and learning processes, this may potentially cause a challenge. The HODS may overlook

recommendations by DQA and even from KEBS and the DQA or KEBS auditors may also feel intimidated and may compromise quality.

4.1.7 Participants' Faculty/School

The researcher wanted to find out the distribution of students and lecturers who participated in the study in terms of their faculties or departments in order to get varied views on how the implementation of ISO 9001:2008 influences the quality of teaching and learning processes. Information on the Faculties/Departments of the participants is presented in Table 6.

Table 6: Lecturers and Students Distribution by School /Department

Department/faculty	**Lecturers**		**Students**	
	F	**%**	**F**	**%**
Education	-	-	372	100
Education Foundation	7	12.5	-	-
Management and Policy	6	10.7	-	-
Curriculum Development	7	12.5	-	-
Geography & environment	5	8.9	-	-
History & Government	4	7.1	-	-
Psychology	4	7.1	-	-
Research	3	5.3	-	-
Education Administration	7	12.5	-	-
Special needs	6	10.7	-	-
Linguistics and language	7	12.5	-	-
Total	**56**	**100**	**372**	**100**

The students were asked to indicate the school or department where they belonged. The results show that all the students who filled the questionnaires indicated that they

belonged to the schools or faculty of education. Since they were undergraduates, they seem to have identified themselves with schools and not departments or subject specializations. With regard to the lecturers, the results show that the study covered many departments from the schools of education which enabled the researcher to get diverse and in depth responses on the influence of ISO 9001:2008 on teaching and learning procedures and processes in schools of education in the selected public and private universities in Kenya.

4.2 Awareness of Universities' ISO Status

The study sought to know whether the participants were aware of ISO certification status of their respective institutions. The findings showed that there was adequate awareness of the ISO 9001:2008 certification by both lecturers and students who participated in the study. About 89.3% of the lecturers and 91.9% of the students indicated that they were aware of ISO certification in their universities. It was however interesting that about 11% of the lecturers were unaware of ISO certification status of their institution. This implies that they may also be unaware of the ISO standards to be implemented in order to influence teaching and learning procedures and processes. The conclusion that follows was that in so far as this percentage was concerned, the HODS may not be effective in ensuring implementation of ISO standards by the lecturers and hence the need for the DQA and KEBS to take keener interest in auditing the implementation of the ISO standards in teaching and learning processes.

4.3 Procedures Generated in Teaching and Learning Processes

This first research question aimed at assessing how ISO 9001:2008 certifications has influenced the generation of procedures in teaching and learning processes in the sampled universities. It is expected that before an organization or institution gets ISO certification, it has to have documented procedures to provide evidence of the effectiveness of the system

to meet among others quality objectives. Table 8 and 9 show the responses of the lecturers and students who participated in the study.

Table 7: Lecturers' Response on the Procedures in Teaching and Learning Lecturers

N=56 SD=Strongly Disagree D=Disagree U= Undecided A=Agree SA=Strongly Agree

	SD		D		U		A		SA	
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
The university has procedures for staff recruitment	-	-	-	-	2	3.6	16	28.5	38	67.8
The procedures for recruitment spell out recruitment qualifications	-	-	-	-	4	7.1	16	28.6	36	64.3
Lecturers' teaching according to the area of specialization	-	-	2	3.6	6	10.7	16	28.6	32	57.1
The university has procedures of how students should be assessed and evaluated	-	-	-	-	6	10.7	8	14.3	42	75.0
There is a procedure for examination administration	-	-	2	3.6	4	7.1	10	17.9	40	71.4
External examiners are usually involved in exam evaluations	2	3.6	4	7.1	4	7.1	18	32.2	28	50.0
Students receive their results before the next semester/trimester begins	20	35.7	14	25.0	6	10.7	8	14.3	8	14.3
Lecturers are aware of the procedures to make their complaints	-	-	8	14.3	-	-	24	42.9	24	42.9
The university has procedures for getting lecturers' feedback on teaching progress	-	-	-	-	10	17.8	16	28.6	30	53.6
The university implements lecturers' feedback	-	-	32	57.1	10	17.9	12	21.4	2	3.6
Lecturers' feedback is published at least annually as evidence for implementation	22	39.3	20	35.7	8	14.3	6	10.7	-	-

The findings in Table 7 shows that 54 (96.4 %) of the lecturers are in agreed that their universities have procedures for staff recruitment and only a small percentage of

(5.2%) lecturers disagreed and 3 (0.8%) were undecided. The high percentage as indicated by the lecturers scores show that there are procedures for staff recruitment in both public and private universities that participated in the study. The is in line with the requirements of ISO 9001: 2008 that documents must be developed, procedures followed and quality data collected in order to measure performance.

The items on whether the procedures spell out recruitment qualification for lecturers yielded similar results. 52 (92.9%) of the lecturers indicated that the recruitment procedures clearly spell out the qualifications for lecturers. ISO 9001:2008 requires that an organization or institution should determine the necessary competence for the personnel performing work affecting conformity to the product. Other procedures on assessment and evaluation of the students, examination administration, and lecturers expressing complaints scored equally high percentages from the lecturers. This is interpreted to mean that there is a positive influence of ISO QMS on teaching and learning procedures and processes. The findings of this study concur with Dumond and John (2013) who summarize that the heart of a QMS lies in its ability to determine customer requirements, developing processes to meet those requirements, delivering the products or services and measuring customer satisfaction and taking action to improve customer satisfaction.

Regarding the item on examination procedures, a total of 50 (89.3%) of the lecturers are in agreement that there are procedures on examination administration. About 46 (82.1%) of the lecturers are in agreement that there are procedures for expressing complaints and 46 (82.1%) agreed that they know the procedures for giving feedback. Feedback helps to identify the effectiveness of teaching related to the course content, infrastructure, equipment, laboratory and lecturers' teaching competencies. The study was able to corroborate the findings of the lecturers and students with document analysis regarding

policy papers on teaching procedures and observation guide and concluded that the sampled universities have documented procedures in teaching and learning processes.

The findings of this study concur with that of Magutu, *et al* (2010**)** on the quality management practices in Kenyan educational institutions (Case of the University of Nairobi) which found that the University of Nairobi has documented its procedures and processes and it carries out internal auditing, monitors and measures the processes to demonstrate the processes ability to achieve planned results and to determine whether the QMS conforms to the requirements of ISO 9001:2008.

The study also developed a related item that sought to determine from the lecturers whether they teach according to the areas of their specialization. 48 (85.7%) of the lecturers indicated that they do teach according to their areas of specialization while 2(3.6%) disagreed and 6 (10.7%) remained undecided. The study also confirmed from the various departments within the schools of education and was able to ascertain that most of the lecturers did teach according to their areas of specialization. This indicates that students are taught by qualified lecturers who are well versed in their areas of study. This is in agreement with the study of Wangare and Ward (2010) which pointed out that the quality of teaching depends on the quality of teachers which in turn depends to some extent on the quality of their professional development.

The researcher further wanted to determine some related procedures from the lecturers whether the university invites external examiners to evaluate the examinations, whether students receive their results before the next semester/trimester begins and whether the lecturers' and students ' feedback are implemented and published at least annually as evidence of implementation. 46 (82.1%) of the lecturers agreed that external examiners do

evaluate the examinations. It is crucial for examinations to be moderated by independent examiners to create a quality culture and minimize real or assumed biases.

The researcher further sought to know from the lecturers whether students receive their results before the next trimester/semester as indicated in academic calendars of the selected universities. The results show that 20 (35%) of the lecturers strongly disagreed, 25(44.6%) disagreed 6 (12.5%) remained undecided and only 16 (28%) agreed that students receive their examinations before embarking on the next semester. Quality teaching and learning entails progression to the next level or semester based on the results of performance in the preceding period of learning.

The fact that only 28% of the lecturers agree that they release to the students the results of the previous semester before the commencement of the new semester, means that a large percentage ((72%) of students proceed to the next level or semester without ascertainment of their eligibility to proceed to the next semester or trimester. The delay according to the interviews with the HODs was as a result of trimesters that provide very limited time for lecturers to mark and present the scripts. The findings reveals the weaknesses of ISO 9001:2008 and concur with the study of Karapetrtrovic (2001) which indicated that ISO provides a set of standardized guidelines for a quality management system to certify the processes and systems of an organization but not its products or services.

On the item about implementation of feedback of the lecturers, the study shows that 25% of the lecturers agreed that their universities implement their feedback while the bigger percentage (75%) are either in disagreement or undecided. The fact that the majority of the lecturers are of the view that their feedback is not implemented means that there is lack of satisfaction which should be addressed by the management.

Finally, the study sought to determine whether the lecturers' feedback is at least published annually as evidence for implementation. The results show that 22 (39.3%) of the lecturers strongly disagreed with the statement, 20 (35.7%) disagreed while 8 (14.3%) remained undecided. It is important to note that none of the lecturers strongly agreed with the item. In order to corroborate the findings, the study carried out separate interviews with the HODS and DQA. All of them ascertained that there are several ways in which students and lecturers are expected to give feedback but none of them provided a documented to give evidence that they publish the feedback. A HOD from one of the public universities had this to say:

> Our students and lecturers have so many channels and avenues to express their complaints such as reporting to the relevant departments or even going straight to the central administration or using suggestion boxes. Students also evaluate the lecturers at the end of every semester. Once their complaints are received by the administration, they are solved there and then. It is not necessary for the university to publish the feedback (HOD, 24/3/2016).

These views contradicts the European Commission Report, (2013) which insists that there is need to annually publish feedback of students by the institution concerned indicating the ways in which the institutions are responding to useful student insights.

Table 8: Students' Response on Procedures in Teaching and Learning Processes

N=372

	SD		D		U		A		SA	
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
The university has procedures for admissions of students	12	3.2	6	1.6	3	0.8	109	29.3	242	65.1
The procedures for admissions spell out admission qualifications	12	3.2	6	1.8	18	4.7	141	37.9	195	52.4
The university has procedures for administration of examinations	11	3.0	2	0.5	23	6.2	136	36.5	200	53.8
The university invites external examiners to evaluate the exams	135	36.3	89	23.9	76	20.4	34	9.1	38	10.3
Students receive their results before the next trimester/semester begins	107	28.8	110	29.5	32	8.6	72	19.3	51	13.7
Students are aware of the procedures for expressing their complaints	33	8.9	49	13.2	66	17.7	162	43.5	62	16.7
The university has procedures for getting students' feedback on learning progress	27	7.3	43	11.5	45	12.1	179	48.1	78	21.0
The university implements students' feedback	53	14.2	62	16.7	107	28.8	116	31.1	34	9.2
Students' feedback is published at least annually as evidence for implementation	108	29.0	75	20.2	108	29.0	60	16.1	21	5.6

The findings in Table 8 indicates that 351 (94.4 %) of the students agreed that universities have procedures for admissions of students to the university and only a small percentage of 3.2% disagreed and 3 (0.8%) were undecided. The high percentage as indicated by the student participants show that there are procedures for student admissions to the universities in both public and private universities that participated in the study.

The items on whether the procedures spell out admission qualifications for students yielded similar results. 90.3% of the students were in agreement that there are procedures for their admissions to the university. Other procedures on assessment and evaluation of the students, examination administration, and students expressing complaints scored equally high percentages. A total of 336 (90.3%) of the students are in agreement that there are procedures on examination administration. Similarly, 224 (60.2%) of the students are in agreement that there are procedures for expressing complaints and 257 (69.1%) agreed that they know the procedures for giving feedback.

The findings are in line with the views of Amanuel (2009) who asserts that the students are the primary customers whose needs must be met. Students are able to provide crucial feedback not only on what works well but also on what they would like to be done differently and how. In addition, a study by James and Baldwin (2007) affirms that students have complementary responsibilities in teaching and learning processes. They are expected to provide feedback to the university and staff on the quality of teaching and other services.

The researcher further wanted to find out some related procedures, whether students receive their results before the next semester/trimester begins and whether the students ' feedback are implemented and published at least annually as evidence of implementation. The results show that a total of 217 (58.3%) of the students disagreed that they receive their results before the next semester while 123 (33.1%) agreed that they received their results before commencing their next semester/trimester and 32 (8.6) % were undecided. Quality teaching and learning entails progression to the next level or semester based on the results of performance in the preceding period of learning. The fact that only 33.1% of the students agreed that they receive the results of the previous semester before the commencement of the new semester, means that a large percentage (66.9%) of students proceed to the next level or semester without ascertainment of their eligibility to proceed to the next semester or

trimester. The findings contrasts with the European Commission Report (2013) which points out that the objective of teaching and learning should promote learners' to develop positive learning outcomes. This should be reflected in transparent evaluation and assessment which is supported by the study of Mayunga (2008) that teaching and learning processes are reflected in the form of student assessment and evaluation.

On the item about implementation of students' feedback, the table shows that 40.3% of the students agreed that their universities implement their feedback while the bigger percentage (59.7%) are either in disagreement or undecided. The fact that the majority of the students are of the view that their feedbacks were not implemented means that there was lack of customer satisfaction among the students who are expected to be the primary beneficiaries of a QMS such as ISO 9001:2008. The findings are supported by the study of Jaafar, *et al* (2011), on Reliability of Students' feedback on the Course Teaching Evaluation System (CTES) in Malaysia which showed that students' feedback is important in identifying the effectiveness of teaching related to the course content, infrastructure, equipment, laboratory and lecturers' teaching competencies.

Finally, the study sought to determine whether the students' feedback was at least published annually as evidence for implementation. The results show that 108 (29.0%) of the students strongly disagreed and a similar number were undecided on the statement while only a total of 81 (21.7%) indicated that their feedbacks were published at least annually as evidence for implementation. This concurs with the study by James and Baldwin (2007) which revealed that students' participation in teaching and learning processes should be a powerful driver of quality teaching and learning processes.

4.3.1 Other Procedures in Teaching and Learning Processes

Through an open ended question, the participants were asked to identify other

procedures available in teaching and learning processes in their respective universities. Other procedures mentioned largely by students from public universities included the following; procedure of expelling students in case of malpractices, procedure of discontinuing lecturers, procedure for supplementary or special examinations, online registration by students, procedures for going for academic trips and procedure for looking for missing marks. A majority of the students indicated that at the end of the semester they are issued with a questionnaire that requires them to rate the quality of teaching process.

A number of them also indicated that they are required to sign attendance sheets and attend at least 75% of the lectures before they are allowed to sit for any examination. The findings of the students and that of the lecturers on availability of procedures in teaching and learning processes were cross-checked with available documents and separate interviews with HODS DQA and KEBS. The researcher was able to conclude that sampled universities have documented most of the procedures in teaching and learning processes. One of the DQA from a public university had this to say:

> ISO requires institutions to have documents for their processes. It was a creation of Government in 2003 which required all the public agencies to sign performance contract to effectively serve the public and improve service delivery. Our university responded to this directive in 2008. At first it was not well received by lecturers. There were several complaints of bureaucracy. The staff felt it was not meant for education sector since the results could not be seen immediately. After a long time with a lot of training and communication from the top management it picked up. Now we have documented Procedures and processes in all departments (DQA, 19/3/ 2016).

This is an indicator that the universities that participated in the study have implemented the ISO requirements regarding the procedures and processes. The findings agree with the

study of Moturi and Mbithi (2015) which found that significant achievement had been realized with regard to institutionalization of quality into the university processes, work environment, documentation and record management among many others.

4.3.2. Level of Satisfaction on Procedures in Teaching and Learning

The students and lecturers were asked to indicate their level of satisfaction on the availability of teaching and learning procedures. Table 10 shows the findings of this item.

Table 9: Level of Satisfaction on Teaching and Learning Procedures

Lecturers N=56 students N=372

	Lecturers		**Students**	
Response	**F**	**%**	**F**	**%**
Very Dissatisfied	2	3.6	27	7.3
Dissatisfied	2	3.6	42	11.3
Undecided	16	28.5	125	33.6
Satisfied	26	46.4	148	39.7
Very satisfied	10	17.9	30	8.1
Total	**56**	**100.0**	**372**	**100.0**

The results show that 36 (64%) of the lecturers and 178 (47.8% of the students are satisfied and very satisfied with the procedures in teaching and learning processes. Surprisingly, the table reveals that 29% of the lecturers, who are responsible for generating teaching and learning procedures, are undecided with the teaching and learning procedures. There is need for the management, the Heads of Departments together with the DQA and universities internal auditors to monitor how the procedures are being generated and implemented in their institutions.

The Table similarly indicates that a bigger percentage of the students are either undecided, or dissatisfied with the existing procedures in teaching and learning processes. This is an alarming feedback as well. The study interprets this to mean that the available procedures may not likely be meeting the learning needs of the students ISO 9001:2008 expects the organizations or organizations to generate procedures that help them to achieve their specific objectives.

The sample universities' administrators together with the HODS, DQA and KEBS' auditors need to evaluate, review and monitor the generation and effectiveness of these procedures in teaching and learning processes to meet the needs of the students who are the primary customers of a QMS. This is in line with the study of Dumond & John (2013) who established that the heart of a QMS lies in its ability to determine customer requirements, developing processes to meet those requirements, delivering the products or services and measuring customer satisfaction and taking action to improve customer satisfaction.

4.4 Influence of ISO 9001:2008 on implementation of Teaching and Learning procedures and Processes

ISO 9001: 2008 expects organization to provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness among others. This research question sought to establish how implementation of ISO 9001:2008 QMS influenced the implementation of teaching and learning procedures and processes in the sample universities. The lecturers and students were asked to indicate the extent to which they agreed or disagreed with the implementation of various procedures. Table 10 and 11 present the responses of lecturers and students on the various implementation variables.

Table 10: Lecturers' Response on the Influence of ISO on Implementation of Procedures

SD=Strongly Disagree D=Disagree U= Undecided A=Agree SA=Strongly Agree

	SD		D		U		A		SA	
Items	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Learning begins on the first day of opening	4	7.1	32	57.1	8	14.3	8	14.3	4	7.1
Lecturers provide course outlines on the first day of the lecture	-	-	2	3.6	10	17.9	12	21.4	32	57.1
The course outlines spell out dates for CATS and exams and other assessments	10	17.9	4	7.1	-	-	16	28.6	26	46.4
The course outline spells out the themes and concepts in a systematic manner for students to understand	-	-	-	-	6	10.7	16	28.6	34	60.7
Lecturers explain to students how they evaluate and assess them in a transparent manner	-	-	-	-	4	7.1	20	35.8	32	57.1
Lecturers are comfortable with their workload	-	-	4	7.1	6	10.7	14	25.0	32	57.1
Lecturers participate in designing the course they teach	-	-	8	14.3	2	3.6	18	32.1	28	50.0
Lecturers participate in decision making regarding academic activities	-	-	8	14.3	8	14.3	22	39.3	18	32.1
Lecturers have conducive environment for teaching	-	-	-	-	6	10.7	14	25.0	36	64.3
The university is respected for offering quality education	-	-	-	-	10	17.8	16	28.6	30	53.6
In teaching lecturers employ different teaching styles	-	-	-	-	6	10.7	18	32.1	32	57.1

Table 10 shows that only 21.4% of the lecturers who participated in the study agreed that learning begins on the first day of opening. Time management is a factor in the achievement of the learning objectives. Management should ensure that time for teaching

and learning is well utilized by both the lecturers and students and that both the lectures and students understand their respective roles in teaching and learning processes. Separate interviews with HODS, DQA and KEBS' representative revealed that in implementing the teaching and learning procedures and processes, lecturers have the role to teach the courses allocated to them within the given timeframe, take the class attendance, employ different methods in teaching to accommodate different learning styles of student which are measured by the level of students' complaints or level of satisfaction. Lecturers are also expected to attend the faculty meetings**,** set and mark examination.

On the item of whether Lecturers provide course outlines on the first day of the lecture, the results show that a majority of the lecturers 44 (79%) agree that lecturers provide course outlines on the first day of the lecture. This means that the lecturers come to class or to the lecture halls prepared on the first day that they come for lectures. On the items regarding whether course outlines spell out dates for CATS and examinations, and whether lecturers explain course content and cover the course within time allocated, table 10 shows that the majority of the lecturers are in agreement with these items evidenced by the high scores. The findings concur with ENQA (2009) which indicated that the most effective learning experience is provided when the teacher is adequately qualified to guide the student while employing the most effective teaching methodology during the teaching process. The teachers are the most important learning resources available to most students.

The study managed to access some of the policy documents on teaching and learning processes such as policy papers, course descriptions and contents of course outline and the evaluation forms of lecturers. The study also accessed course outlines of various disciplines and past examination papers and evaluated them against the lecturers' and students' responses as outlined in Tables 10 and 11 and concluded that sampled universities have documented and implemented their procedures and processes in line with ISO

9001:2008 requirements. The findings agree with the study of Daudi, *et al* (2012) on effectiveness of ISO implementation in teaching and learning at UKM-Malaysia which reported that undergraduate students were satisfied with the quality management implementation related to the quality objectives and work instructions that supports the management of the academic programs.

Regarding the item whether the lecturers were comfortable with their workload, the findings established that 46 (82.1%) of the lecturers are in agreement that they are comfortable with their workload and only 7% disagreed while 10% were undecided. During an interview session, one HOD from a public university had this to say:

> I know that we have a very big student population in the school of education, but workload is not that overwhelming since examinations are marked by departments and not by single individuals. The lecturers who may feel overwhelmed are those who moonlight here and there looking for an extra coin but they cannot come up in the open to complain since moonlighting is one's choice. The university has no responsibility over that (HOD, 18/3/ 2016).

From this interview and the finding that an overwhelming 82% of the lecturers responded that they were comfortable with their workload, the researcher concluded that work overload may not be one of the explanations for low morale for lecturers as indicated by the study of Wanzala (2013).

Further, the investigator sought to know whether the lecturers participate in designing the courses they teach. The results show that 46 (82.1%) of the lecturers indicated that they participate in designing the courses that they teach while 8 (14.3%) disagreed and 3.6% were uncertain. A similar item was constructed to find out whether the lecturers also participate in decision making regarding academic activities and the majority of them

(71.4%) agreed that they do participate. An interview with the HOD from the private university revealed that the management consults the lecturers regarding activities such as academic trips, conferences and workshops and they are usually expected to fully participate.

The fact that the majority of the lecturers agree that they are involved in designing the courses that they teach, and that they participate in decision making regarding the academic activities in their respective universities indicates that they are co-collaborators in decision making related to teaching and learning process in the universities. The findings concur with the views of ENQA (2009), that in teaching and learning processes, teachers or lecturers are the key personnel and single most determinants of successful teaching and learning processes. This is also in line with the theories of TQM and MBO which call for collaboration and co-operation between top management and faculty in organizations or institutions to satisfy the customers by continuous improvement of their services.

Regarding the item on conducive environment for teaching and learning processes, and whether the universities are respected for offering quality education 50 (89%) of the lecturers agree that they have conducive environment for teaching and learning processes. From observation the study was able to observe and confirm the serene environment of the sampled universities, the facilities such as the modern libraries, smooth paths, and flowers around the campuses and concluded that the sampled universities have conducive environment for teaching and learning processes.

On whether the sampled universities are respected for offering quality education, 46(82.2%) of the lecturers agreed that they are respected for offering quality education. Although the results from both the lecturers and students show that the sampled universities are respected for offering quality and value education, the observed reality seems to

contradict the findings. In the recent past students have been seen frequently rioting and University of Nairobi was forced to close down temporarily when this study was just concluding. University of Nairobi has been in the media in the recent past for wrong reasons. The university is purported to have students who are involved with criminal activities that have seen some of them expelled. Frequent riots by students from public universities as observed by Amundsen (2000) are a threat to the integrity and reliability of ISO Quality Management system and to the provision of quality education.

Table 11: Students' Response on the Influence of ISO on implementation of procedures and processes

	SD		D		U		A		SA	
Items	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Learning begins on the first day of opening	163	43.8	93	25.0	31	8.3	48	12.9	37	9.9
Lecturers provide course outlines on the first day of the lectures	33	8.9	39	10.5	32	8.6	150	40.3	118	31.7
The course outlines spell out dates for CATS and exams and other assessments	21	5.3	63	16.7	29	7.8	136	36.6	124	33.3
Students are aware of the content of their course/program	5	1.3	29	7.8	25	6.7	166	44.6	147	39.5
Lecturers cover the course content in time	18	4.9	49	13.2	35	9.4	168	45.2	102	26.4
Lecturers explain concepts in a systematic manner for students to understand	4	1.1	46	12.4	47	12.6	186	50.0	89	23.9
Students are informed of how they are assessed and evaluated	19	5.1	33	8.9	44	11.8	171	46.0	105	28.2
Students participate in designing the course coverage	158	42.5	100	26.9	44	11.8	70	18.8	-	-
Students have conducive environment for learning	21	5.6	24	6.5	24	6.5	150	40.3	153	41.1
The university is respected for offering quality education	7	1.9	6	1.6	30	8.1	115	30.9	214	57.5
Lecturers use different styles when teaching	4	1.1	27	7.3	25	6.7	174	46.8	142	38.2

The results from Table 11 show that only 22.8% of the students who participated in the study agreed that learning begins on the first day of opening. Management should ensure that time for teaching and learning is well utilized by both the lecturers and students. This is in line with the study of James and Baldwin (2007**)** who point out that the students

have complementary responsibilities in the teaching and learning processes. They have responsibilities for their personal progress through their level of engagements, commitments and time devoted to study.

On the item of whether students are provided with course outlines on the first day of the lecture, the results show that a majority of students 268 (72%) agree that lecturers provide course outlines on the first day of the lecture. On the items regarding whether course outlines spell out dates for CATS and examinations, whether students are aware of the course content and whether lecturers explain course content and cover the course within time allocated, Table 11 shows that the majority of the students are in agreement that these were done as indicated by the high scores. This is interpreted to mean that the lecturers met the requirements of ISO 9001:2008 in this regard. This is supported by Dumond and John (2013) who assert that the heart of a QMS lies in its ability to determine customer requirements, developing processes to meet those requirements, delivering he products or services and measuring customer satisfaction and taking action to improve customer satisfaction.

Further, the researcher sought to establish whether the students participate in designing the course programs that they undertake. The findings show that 258 (69.4%) disagreed that they are involved in designing their courses. Other 44 (11.8%) were undecided and only 70 (18.8%) agreed that they do. The findings show that participation by students in the design of the courses that they take is insignificant at 18.8% and therefore they are hardly involved in decision making concerning the courses that they take. The findings contradict the views of EDQUAL (2006) which asserts that there is a need for universities to engage students in developing the teaching and learning framework and ensure that the framework incorporates what quality teaching means for them. EDQUAL further points out that students' participation in the teaching and learning process should be

a powerful driver of quality teaching and learning.

Regarding the item on conducive environment for teaching and learning processes, Table 11 indicates that 303 (81.1%) of the students agree that they have conducive environment for learning processes. This is in line with EDQUAL (2006) which found that the quality of the environment or sanitary in learning and teaching process directly or indirectly affects the outcomes of education.

4.4.1 Methods/Styles Employed in Teaching and Learning Process

Were (2003) opines that teachers must be aware that different kinds of teaching methods and educational settings can produce different kinds of learning. The research sought to know the methods that the lecturers employ in teaching and learning processes to achieve the learning objectives. Both the lecturers and students who participated in the study were asked to indicate methods or styles used in teaching and learning processes by ticking in columns under Never used, Rarely used, and Frequently used. Table 12 shows the findings.

Table 12. Table 12: Responses on Methods/Styles Employed in Teaching and Learning

Lecturers N=56 students N=372

	Never used		Rarely used		Frequently used	
Methods	**F**	**%**	**F**	**%**	**F**	**%**
Giving lectures	4	7.1	16	28.6	36	64.3
Text reading and Note taking	-	-	12	21.4	44	78.6
Demonstrations	-	-	18	32.1	38	67.9
Field Trips	8	14.3	16	28.6	28	50
Group discussions and presentations	2	3.5	16	28.6	38	67.9
Projectors	-	-	24	42.9	32	57.1
Audio-visual	6	10.7	14	25	36	64.3
Industry placement/internship	6	10.7	32.	57.1	18	32.2
Student exchange program	14	25.0	28	50.0	14	25
Students	**F**	**%**	**F**	**%**	**F**	**%**
Giving lectures	6	1.6	16	4.3	350	94.1
Text reading and Note taking	25	6.7	126	33.9	221	59.4
Demonstrations	55	14.8	170	45.7	147	39.5
Field Trips	114	30.6	189	50.8	69	18.5
Group discussions and presentations	17	4.6	87	23.4	268	72.0
Projectors	34	9.1	147	39.5	191	51.3
Audio-visual	108	29.0	174	46.8	90	24.2
Industry placement/internship	90	24.2	124	33.3	156	41.9
Student exchange program	111	29.8	143	38.4	118	31.7

Table 12 shows varying responses of both students and lecturers on methods or styles employed in teaching and learning processes in the sampled universities. The Table shows that the popular styles employed by lecturers are text reading and note taking which

yielded the response of 44(78.6%) which was followed by demonstrations and group discussions which yielded 38 (67.9%) of the lecturers' response while Audio-visual yield 36(64.3%) of the responses followed by use of projectors which yielded the response of 32(57.1%). With regard to the students' responses a majority 350 (94.1%) indicated that giving of lectures is popularly used compared to other methods. The findings also show that exchange program as a method of learning which would expose the learners to new views is not used as indicated by 25% of the lecturers and 29.8% of students. From the findings, the researcher concludes that the lecturers frequently employ methods or styles that are teacher centered and not student centered.

Lecturers should be encouraged to use more of student -centered styles in teaching and learning processes to encourage creativity, innovation and large student participation. This is supported by Beausaet, Segers & Wiltink (2013) study which investigated how students in West Indies perceive their teachers' approaches to teaching in different disciplines and how that related to their own learning approaches. The results indicated that a teacher –centered approach such as giving lectures and text reading and note taking predicts a surface approach to learning (rote learning) while a student –centered approach such as group discussions and presentations predicts a deep approach to learning. The study concluded that when schools aim to support students in developing learning approaches, attention should be paid to teachers' approaches to teaching.

4.4.2 Other Methods or Styles Used in Teaching and Learning Processes

In an open ended question, the researcher asked both the lecturers and the students to list other methods used in teaching and learning processes in their respective universities. The results were summarized into categories, coded tabulated and presented in Table 13.

Table 13: Responses of Students and Lecturers on Other Teaching Methods/Styles

Lectures N=56 students=372 F= Frequency %= Percentages

Methods	**Lecturers**		**Students**	
	F	%	F	%
Question and answer	11	19.6	107	28.8
Giving handouts	9	16.1	84	22.5
Research projects	9	16.1	48	12.9
E-mailing notes	7	12.5	47	12.6
Micro-teaching	7	12.5	42	11.2
Laboratory experiments	3	5.3	18	4.8
Self –discovery approach	3	5.3	10	2.6
Participation in conferences	5	8.9	9	2.4
Writing reflection papers	2	3.6	7	1.9
Total	**56**	**100**	**372**	**100**

Table 13 shows that question and answer method, giving hand outs and research projects are the major methods used in teaching and learning processes as indicated by 19% and 16% by the lecturers and 29% and 23% by the students who participated in the study. The findings are consistent with the earlier results that student centered methods are not effectively used since these methods score very low percentages. Through observation, the researcher ascertained that most lecturers use teacher centered methods. The researcher also observed that there were minimal interactions between the lecturers and the students since the students were busy taking notes. Interviews with HODS, DQA and KEBS revealed that ISO 9001:2008 has no direct influence on the teaching and learning styles because it

emphasizes on externals rather than what is actually happening in the classroom. One of the HODS said this:

> ISO checks on availability of procedures and facilities like projectors, whiteboards, fire-extinguishers among others but not on how students learn or how teachers teach. The teacher can easily come to class, take class attendance and tell stories to students for the given time and leave the classroom. Likewise, students can also attend and sign up and sleep for the given time. Both the student and the teacher in this case would have met the requirements of ISO regarding procedures in teaching and learning but no learning would have taken place. Facilities could be there but nobody could be using them (HOD, 22/3/ 2016).

This particular HOD suggested that ISO auditors should do spot checking in order to know what is happening in the lecture halls. As if to confirm the views of this particular HOD, in a separate interview with KEBS, the study probed the KEBS officer on what is usually audited in educational institutions such as universities. The officer had this to say:

> Each institution is audited according to their documented procedures and processes guided by auditing manual. largely we as auditors look out for the following; class attendance of the students per given course, number of students for the given course together with number of audit trail on faculty, content of course outlines whether it matches with the syllabus, examination procedures, dates when the CATS and examinations are done, marked and submitted to the relevant offices, dates when lecturers meet to do course evaluation which are checked a long side areas of specialization (KEBS, 26 /2/2016).

KEBS representative further ascertained that students and lecturers interaction is left to the discretion of the lecturers who are the experts in this regard. They only come in when

students raise complaints where they do audit trail to check how the complaints are addressed. The officer was quick to point out that although ISO may not directly influence the teaching and learning styles, by the virtue that ISO addresses the issues of non conformity, it indirectly addresses the teaching and learning styles. The officer asserted that conformity with ISO 9001:2008 requires that the classes are less congested, teachers are qualified and students are admitted with right qualifications to produce the desired objectives. The officer summarized by saying that the institutions have the responsibility to ensure that the documented processes and procedures lead to quality of the service delivery (KEB, 26/2/2016).

4.4.3 Students' Rating of Overall Quality of Teaching Methods in Universities

The researcher further asked the students to rate the quality of teaching methods in their respective universities. The results are as indicated in Table 14

Table 14: Students' Rating of Overall Quality of Teaching Methods in Universities

Response	Frequency	Percentage
Very poor	7	1.9
Poor	13	3.5
Undecided	37	9.9
Fair	121	32.5
Good	161	43.3
Very Good	33	8.9
Total	**372**	**100**

The rating indicate that a total of 178 (47.8%) of students find the quality of teaching methods fair, poor, or very poor or otherwise undecided. This is an indicator of dissatisfaction. It is through effective teaching methods that the learners can gain knowledge and skills required to meet the market demands. The management from the sampled universities should examine itself whether it is meeting the needs of the students who are the primary customers of the ISO 9001:2008 QMS.

There is need for management to provide continuous training to the lecturers to help them to apply most effective methods in teaching and learning processes that would meet or exceed customer satisfaction. This is supported by a study of Jaafar, *et al* (2011), which showed that students' feedback was important in identifying the effectiveness of teaching related to the course content, infrastructure, equipment, laboratory and lecturers' teaching competencies.

4.5 Influence of ISO 9001:2008 Certification on Resources and Infrastructure

ISO certification requires an organization or institution to determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction. In this research question, the study sought to determine whether implementation of ISO 9001:2008 certification by sample universities has any influence on availability of resources and infrastructure in teaching and learning processes. The lecturers and students who participated in the study were asked to indicate the availability of the resources or facilities and infrastructure in their respective universities. The results of the findings were combined and summarized and presented in Table 15.

Table 15: Lecturers' and Students' Responses on Resources and Infrastructure

Lecturers	**Highly unavailable**		**Unavailable**		**Available**		**Highly Available**	
Items	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Equipped library	-	-	18	32.1	20	35.7	18	32.1
Well ventilated lecture halls/room	-	-	4	7.1	32	57.2	20	35.7
Computer labs	-	-	4	7.1	30	53.6	22	39.3
Recommended text books	-	-	10	17.9	22	39.3	24	42.9
Text books for further research	-	-	2	3.6	30	53.6	24	42.8
Relevant journals	-	-	4	7.1	24	42.9	28	50
Internet facilities	-	-	2	3.6	26	46.4	28	50
Projectors	-	-	2	3.6	30	53.6	24	42.8
Photo copying and printing places	-	-	2	3.6	30	53.6	24	42.8
Canteens	-	-	4	7.1	24	49.1	28	50.0
Recreation facilities	6	10.7	6	10.7	20	35.7	24	42.9
Students	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Equipped library	5	1.3	18	4.8	259	69.6	90	24.2
Well ventilated lecture halls/room	4	1.1	12	3.2	128	34.4	228	61.3
Computer labs	5	1.3	19	5.1	169	45.4	179	48.1
Recommended text books	11	2.9	57	15.3	171	46.0	133	35.8
Text books for further research	7	2.8	52	14.0	159	42.7	154	41.4
Relevant journals	13	3.5	65	17.5	163	43.8	131	35.2
Internet facilities	12	3.2	24	6.5	148	39.8	188	50.5
Projectors	14	3.8	51	13.7	195	52.4	112	30.1
Photo copying and printing places	17	4.6	24	6.5	162	43.5	169	45.4
Canteens	15	4.0	28	7.5	132	35.5	197	53.0
Recreation facilities	27	7.2	43	11.6	168	45.2	134	36.0

The results in Table 15 show that the resources are either available or highly available as indicated by high percentage scores from both the students and the lecturers. The Table shows that most of the facilities scored above average. For example according to the lecturers' responses, the availability of the lecture halls and computer laboratories scored 92.9%. Regarding the students' responses on availability of equipped libraries scored 93.8% while lecture halls scored 95.7% among many other facilities as indicated by Table 15. The findings were corroborated by observation guide. The researcher guided by research assistants was able to walk around and observed some of the identified facilities such as the libraries, big lecture halls and some were still under construction in one of the public universities, computer laboratories, and university bookshops among many other facilities and infrastructure.

Although the facilities were generally available, the researcher observed that some were not adequate. This is because the researcher observed congestion in some lecture halls. The study also observed some students who were scrambling for the available computers and for sitting space in one of the libraries in a public university that participated in the study. The scenario was however different in the private university. The library was nearly empty and almost all the students that were in the library had either personal laptops or were doing private reading enjoying the spacious library.

Separate interviews with the DQA and HOD from the private university revealed that the university has facilities for teaching and learning. The HOD had this to say:

> We have the best library in the country but students don't utilize it and most of the time you will find it half empty. The university has also purchased many journals and text books online but our students don't take the advantage of the resources available, the computers are available in different computer labs but

> most of our students have personal laptops and they rarely visit the computer labs unless during the computer classes. I know that facilities will never be adequate but our university is doing well. Most of the available facilities are in fact underutilized (HOD, 29/2/ 2016).

These findings contradict the study of Naser (2010) on *Education Quality of Private Universities in Bangladesh: Faculty resource and Infrastructure Perspective* which disclosed low satisfaction level of students on campus facilities like the laboratories and library facilities. Although nearly all the facilities that the study identified were either available or highly available, the universities need to ensure that facilities are highly available and adequate to satisfy the needs of the learners in order to achieve quality education that would meet the market needs and also attract more regional and international students.

This is further supported by EDQUAL (2006) which confirmed that the management of infrastructure is important in determining the quality of teaching and learning processes. In addition, Michalska (2009) points out that the quality of these infrastructures in the learning and teaching process directly or indirectly affects the outcomes of education. These can be reflected in terms of the place of university in the ranking, achieved prizes, certificates and distinctions, opinion of the accreditation institution, participation in competitions, projects, sports and conferences among others.

4.5.1 Other Resources and Infrastructure in Teaching and Learning

The researcher in an open- ended question asked the students and the lecturers to state other resources or infrastructure found in their respective universities that aided in teaching and learning processes. Majority of the participants mentioned the following facilities: availability of bookshops that aided in purchasing latest books, TV rooms that

kept them abreast with current issues, university buses, shuttles and vans, that facilitated quick transportation. The others mentioned were entertainment halls, university chapels, dispensary, availability of water, passable roads within campus, availability of Wi-Fi in the campus, stand- by generators in case of power failure and resource centre for specific disciplines.

This is in line with Michalska (2009) who asserts that the quality of resources and infrastructure is teaching and learning process can be reflected in terms of the place of the university in the ranking, achieved prizes, certificates and distinctions, opinions of the accreditation institution, participation in competitions, projects, sports and conferences among them.

4.5.2 Level of Satisfaction on the Availability of Resources and Infrastructure

The lecturers and students who participated in the study were asked to rate their level of satisfaction on the availability of resources and quality of infrastructure in teaching and learning processes. The findings were summarized and presented in Table 16.

Table 16: Lecturers' and Students' level of Satisfaction on Resources and Infrastructure

	Lecturers		**Students**	
Response	**F**	**%**	**F**	**%**
Satisfactory	6	10.7	87	23.4
Good	28	50.0	171	46.0
Undecided	10	17.9	71	19.1
Excellence	12	21.4	43	11.5
Total	**56**	**100.0**	**372**	**100.0**

Table 16 shows that 82.1% of the lecturers and 80.9%) of the students find the resources and infrastructure in their respective universities satisfactory, good or otherwise excellent. Only 17.9% of the lecturers and 19.1% of the students are undecided whether the

resources and infrastructure are adequate in teaching and learning processes. Since students have different subject specializations, probably not all of them find the facilities available to meet their special learning needs thus accounting for 19.1%. The study interprets this to mean that they are honest and reliable in their opinions on the availability of resources and infrastructure. The findings contradict the study of Mange, Onyango & Waweru (2015) which investigated on the magnitude of challenges facing management of Kenya's public universities and implications for quality of higher education. Mange, Onyango and Waweru's study found that almost all the public universities that took part in that study did not have enough teaching and learning infrastructure and resources especially lecture halls, library spaces, computers and text books.

4.6 Challenges Facing ISO Certification on Teaching and Learning Processes

This research question sought to know from the study participants the challenges of ISO certification in teaching and learning procedures and processes. Table 18 shows the responses of the lecturers and students on the various items on challenges

Table 17: Responses of lecturers on Challenges Facing ISO in Teaching and Learning

Lecturers	Major challenge		Minor challenge		Not a challenge		Uncertain	
Items	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Challenge of delivery of quality education	10	17.9	26	46.4	20	35.7	-	-
Challenge of commitment by lecturers	6	10.7	28	50	22	39.3	-	-
Challenge of irrelevant programs	8	14.3	22	39.3	22	39.3	4	7.1
Stiff competition from other universities	10	17.9	26	46.4	20	35.7	-	-
Challenge of material and equipment for teaching	10	17.9	18	32.1	48	50	-	-
Challenge of corruption	6	3.6	32	57.1	16	28.6	2	3.6
Challenge of meeting audit requirements	22	39.3	28	50.0	4	7.1	2	3.6
Challenge of rigidity of ISO requirements	26	46.4	12	21.4	16	28. 5	2	3.6
Students	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
Items								
Challenge of delivery of quality education	67	18	140	37.6	147	39.5	18	4.8
Challenge of commitment by lecturers	76	20.4	151	40.6	129	34.7	16	4.3
Challenge of irrelevant programs	53	14.2	119	32	152	40.9	48	12.9
Stiff competition from other universities	79	21.2	108	29	154	41.4	31	8.3
Challenge of material and equipment for teaching	68	18.3	127	34.3	144	38.7	32	8.6
Inadequate lecture halls	60	16.1	101	27.2	187	50.3	22	6.4
Challenge of time management	55	14.8	160	43	131	35.2	24	7
Challenge of dissatisfied lecturers	69	18.5	157	42.2	125	33.6	21	5.6
Challenge of corruption	114	30.6	135	36.3	72	19.4	51	13.7
Challenge of disproportionate student: staff ratio	114	30.6	150	40.3	70	18.8	34	10.3

Table 17 shows that while other items are considered by the lecturers who participated in the study as either minor or not challenges, meeting audit requirements and rigidity of ISO requirements are largely considered as either major or minor challenges in teaching and learning processes. The findings show that 50 (89.3%) of the lectures indicated that meeting audit requirement is a challenge and 38 (67.8%) similarly indicated that it was a challenge to meet the requirements of ISO in teaching and learning processes. This means that although a majority of the lecturers could be aware of ISO certification in their respective universities, and have generated and implemented procedures in teaching and learning process, they may not be fully appreciating the requirements of ISO QMS in teaching and learning processes. This was revealed during the face to face interviews. The HODS and DQA revealed that some of the staff members resent the demands of ISO requirements.

HODS and DQA reported that some faculty members speak in undertones that they should be paid for more responsibilities like documentations which are considered the work of the top management. Some of the lecturers asserted that their business was to teach and not to keep records and impossible requirements of ISO. This scenario seems to concur with the study of Wanjiru (2007) which reports that employees complained of bureaucracy involved in documenting and accreditation processes. The lecturers need more and continuous training on the relevance of implementation of ISO certification in teaching and learning processes.

With regard to the students' responses, the findings also show that while other items are considered as either minor or not a challenge, corruption and disproportionate student and staff ratio were considered as challenges by 114 (30.6%) of the students who participated in the study. The study could not however establish the nature of corruption as alleged by the students who participated in the study since the questionnaire does not

provide room for probing. Top management should look into these allegations by the students in the sample universities and address these issues immediately.

The study sought to know from KEBS, HOD and DQA the kind of challenges they experienced in either implementation or in auditing teaching and learning procedures and processes.

KEBS' representative had this to say:

> We the chief auditors experience a lot of challenges from the institutions. There are instances where you go to audit an institution and some lecturers are unwilling to provide audit evidence. Some hide complaints of customers (students). There is also challenge of time. We have a lot of processes to audit provided by specific institutions but little auditing time. This makes it hard to investigate customer complaints to conclusion. Sometimes there are also issues of integrity. Top management may pretend to be doing well and take the initiative to invite auditors and pay them well only to hide crucial information from the auditors that may be required for evidence (KEBS, 26 /2 / 2016).

These utterances by the certifying body is worrying and confirms the allegations by Amundsen (2000), that ISO certification was initially meant for improving transparency and accountability in educational system. It was also meant to provide exposure to methodologies and initiate policy dialogue on anti corruption in education sector but is now viewed as a uniform for higher institutions to hide either their corrupt deals such as embezzling, bribery and fraud. In a similar way, another DQA official from a public university said this:

> Besides the accrued benefits of ISO certification such as inculcation of the culture of quality in both staff and students, improved work environment, for

both student and staff, consistence in documentation, improved document and record management and improved infrastructure and facilities, there are serious challenges such as inadequate involvement and commitment from some faculty and staff. Some staff emphasize on satisfying audits rather than making the QMS a way of life. There is a lot of focus on conformance to the requirement at the expense of effectiveness. There is also a negative perception that QMS activities lead to additional workload rather than a framework to improve work and that ISO successes are not shared equally (DQA, 30/ 3/ 2016.

In order to overcome these challenges and achieve quality education through teaching and learning processes, there is need for all the stakeholders to co-operate and encourage the culture of good practices in this regard. Pope Benedict XVI (2011) points out that quality education that aims at the formation of the whole person requires collaborative effort from all stakeholders-teachers, students, parents, policy makers and a broad curriculum that incorporates moral values such as accountability, honesty, peace, love and unity.

4.6.1 Other Challenges Facing Implementation of ISO in Teaching and Learning

Through an open question, the lecturers and students were asked to identify other challenges experienced by their respective universities in implementing ISO certification. The responses were coded, tabulated and presented in Table 19

Table 18: Lecturers and Students Response on Other Challenges Facing Implementation of ISO in Teaching and Learning Processes

Challenges	Lecturer		Student	
	F	%	F	%
Abuse of drugs by students	**7**	12.5	108	29.0
Student leadership	4	7.1	94	25.2
Accommodations	5	8.9	36	9.7
Unethical way of awarding grades/marks	7	12.5	29	7.79
Getting scholarship	7	12.5	22	5.9
High fees	-	-	20	5.37
Funding of research	12	21.4	18	4.8
Defaulters not sitting for exams	-	-	18	4.8
Training on ISO	12	21.4	-	-
Missing marks	-	-	15	4.03
Security guards	2	3.5	5	1.34
Management of credit control	-	-	7	1.88

Table 18 shows that while 29% of the students who participated in the study show that abusing of drugs is a challenge, only 12.5% of the lecturers indicated that it is a challenge. Similarly, while 25.2% of students, reveal that student leadership is a challenge, only 7% of the lecturers think that it is so. These contradicting views could be an indication that the lecturers may not actually be in touch with the students they are teaching. They seem to follow procedures in teaching and learning but they do not seem to assume the responsibility of mentorship.

The findings are contrary to the views of Mbae (2015) in his article "Towards Reforms in Kenya's Values Education" in *Advancing Education: A Challenge to Institutions of Learning* that teachers are at the centre of any meaningful value education

because parents bring their children to the teacher with the expectation that they will acquire not only knowledge but also discipline and character. Mbae further explains that for the schools to achieve the goal of social and moral education, teacher training colleges and universities must produce a category of teachers who are competent as persons, as professionals and as role models to handle value education.

With regard to the lecturers, Table 18 indicates that 21.4% of the lecturers find funding of research and ISO training a major challenge. Research is one of the core functions of any university and through it new knowledge is created. There should be sufficient funds availed through budgetary allocations to universities to promote quality research in order to be competitive and meet market demand. There is also a need for top management to continuously communicate quality policies and objectives to the staff so that they may be helped to effectively implement the requirements of ISO 9001:2008 in teaching and learning process.

4.7 Strategies to Address the Challenges of ISO in Teaching and Learning

In order to address the challenges of ISO certification in any organization or institution, Nair, (2002) explains that ISO 9001:2008 requires an institution to review nonconformities, determine the causes of non conformities, evaluate the need for action to ensure that non conformities do not occur, determine and implement action needed and record the results and review the effectiveness of the corrective action taken. This research questions sought to establish the strategies that are and could be put in place to address the challenges facing ISO certification in sampled universities. The responses were summarized and presented in Tables 19 and 20.

Table 19: Lecturers' Responses on Strategies to Address Various Challenges

Key: **SD=Strongly Disagree D=Disagree U= Undecided A=Agree SA=Strongly Agree**

	SD		D		U		A		SA	
Strategies	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
The university has come up with new and relevant programs	-	-	-	-	6	10.7	22	39.3	28	50.0
The university ensures that time for learning is used well	-	-	2	3.6	2	3.6	22	39.3	30	53.6
The university has clear policy on evaluation and assessment	-	-	-	-	-	-	28	50.0	28	50.0
The university has adequate resources for teaching and learning	-	-	2	3.6	8	14.3	26	46.4	20	35.7
The university has come up with different strategies for teaching e.g. online teaching			4	7.1	4	7.1	24	42.9	24	42.9

Table 20: Students' Responses on Strategies to Address Various Challenges

Key: **SD=Strongly Disagree D=Disagree U= Undecided A=Agree SA=Strongly Agree**

	SD		D		U		A		SA	
Strategies	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
The university has come up with new and relevant programs	18	4.8	14	3.8	119	31.9	139	37.4	82	22.0
The university ensures that time for learning is used well	31	8.3	21	5.6	40	10.8	181	48.7	96	25.8
The university has clear policy on evaluation and assessment	5	1.3	34	9.1	46	12.4	157	42.2	130	34.9
The university has adequate resources for learning	15	4.0	19	5.1	35	9.4	152	40.9	151	40.6
The university has come up with different strategies for learning e.g. online learning	40	10.8	37	9.9	87	23.4	121	32.5	87	23.4

Table 19 and 20 reveal that 50 (89.2%) of the lecturers and 221(59.4%) of the students either agreed or strongly agreed that their respective universities have come up with innovative and relevant programs. The percentages seem to suggest that the lecturers are more informed about the new programs than the students who are supposed to be the targets of the new programs. There is need for the new programs to be well communicated so that there is adequate awareness of these programs by the students to enable them to embrace newer programs that are relevant to meet the market needs and for the transformation of the society at large.

On whether the sampled universities ensure that time for learning is used well as a strategy, tables 19 and 20 indicate that 52(92.8%) of the lecturers and 277 (74.4%) of the students agree that the sampled universities ensured that time was well managed. This

seems to contradict the earlier item where both the lectures and students indicated that learning does not largely begin on the first day of opening. It seems that both the students and lecturers do ensure that they make up for the time which is initially lost when the institutions commence the trimester or semester. Otherwise top management together with the HODS, DQA and KEBS should keep an eye on how the students and lecturers utilize the time for teaching and learning processes in order to achieve the desired outcomes.

On the item whether the universities have clear policies on evaluation and assessment, 100% of the lecturers agreed with the statement but only 77.1% of the students were in agreement. Although the percentages of both the lecturers who either agreed or strongly agreed that universities have come up with policies on evaluation are high, the percentage of those who did not agree cannot be ignored. It means that there is a problem with the implementation of some policies such as evaluations and assessment which should be investigated. This is supported by ADQUAL (2006) which points out that in teaching and learning processes, an institutional policy should focus on key issues such as: improving the teaching and learning processes, establishing goals for the curriculum, developing relevant content and using learning time well among many others.

Regarding the item on whether universities have adequate resource as a strategy to meet the challenges, the results show that 46 (82.1%) of the lecturers and 303(81.2%) of the students either agree or strongly agree with the strategy. The responses of both the lecturers and students are consistent with earlier items on the availability of the teaching and learning resources thus confirming further that their respective universities have the required facilities as a strategy to enhance learning and to address some challenges such as that of student: staff ratio.

The item on whether the sampled universities have come up with different strategies for teaching such as on-line teaching and learning, the results show that 48 (85.7%) of the lecturers and 208 (55.9%) of the students agree that such a strategy exists. As noted earlier on whether the universities have put in place new programs, the low percentage on this strategy still points on the level of students awareness of what goes on in their universities. There is need for the sampled universities to effectively communicate to the learners the available modules of study. This awareness will aid them to embrace new and technical methods of learning for competitive advantage.

4.8 Other Strategies in and could be in Place to Address Challenges

The researcher asked the respondents in an open question to identify other strategies that their respective universities have put in place and could be put in place to address the challenges mentioned in the previous research question. The strategies in place as mentioned by the majority of the study participants include the following: the universities have established branches or campuses in other towns in Kenya and beyond in order to ease congestion and also to address the issue of competition. The big classes observed in public universities are being divided into manageable sizes to facilitate quality in teaching and learning processes.

Other participants also mentioned that the universities have come up with the strategy of following up lecturers who miss classes and make them to account for the time lost by creating time to make up for the classes missed. There is also decentralization of administration which has increased faculty participation in academic activities. Lastly, the sampled universities have come up with the strategy of promoting lecturers who do research in their respective fields. All the DQA in the sampled universities said that their universities have invested in a strong ICT that support teaching methods such as video conferencing, e-learning and online registration.

Other strategies suggested were online evaluation of lecturers by students to avoid victimization and also increase student participation in evaluating their lecturers. Coming up with committees to hear and determine cases of corruption and cheating in examinations. Sampled universities should introduce ISO QMS in the curriculum to help both the students and lecturers to appreciate it. Doing away with redundant courses that do not meet market demands. The universities should be research oriented and utilize the results to motivate more lecturers together with students to carry out research.

One of the DQA in a public university said that their university need to identify critical success factors needed in order to implement and maintain a QMS such as ISO 9001:2008. While KEBS officer said that universities should now upgrade to the latest version ISO 9001 :2015 which is actually risk based thinking, where you look at risks in the process identifying what could go wrong hence improve the quality in teaching and learning processes.

The findings are confirmed by Townsend (1997) who summarizes that key strategies in quality improvement include strategic planning, allocation of resources and other systematic activities such as quality planning, operations and evaluations. Setting up of academic clubs, coming up with donors, establishment of branches or satellite campuses with quality infrastructure, setting up of committees to hear and determine cases, restructuring of university administration, promotion of professors who carry out quality research and use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary, the conclusions and recommendations of the study. The chapter begins by giving a general summary of the study, followed by conclusions which are based on the research questions. The chapter also presents suggestions for further study.

5.2 Summary of the study

The purpose of this study was to assess the influence of ISO 9001:2008 certifications on teaching and learning procedures and processes in selected public and private universities in Kenya. From the background information, the study found that organizations have seen implementation of ISO 9001:2008 requirements a valuable aid to improving the quality of their products and services (Bureau Veritas, 2007; Mokhtar & Yusof, 2010; Baraza, 2013; Mayer *et al*, 2011) among many others. Quality management System has been regarded as the source of competitive advantage and strategic planning tools for organizations to excel. The literature that was reviewed largely missed information on how ISO 9001:2008 certification influences teaching and learning procedures and processes in institutions of higher learning selected by the study. This study therefore assessed the influence of ISO certification on teaching and learning procedures and processes in public and private universities in Kenya to fill the gap. The study was guided by five research questions:

To what extent does ISO 9001:2008 certification influence the generation of teaching and learning procedures and processes in the selected public and private universities in Kenya? How does ISO certification influence the implementation of

procedures and process in teaching and learning? How does ISO certification influence learning and teaching resources in the selected public and private universities in Kenya? What are the challenges facing the implementation of ISO 9001:2008 certification on teaching and learning procedures and processes in the selected public and private universities in Kenya? What strategies are and could be in place to address the challenges?

The study adopted Systems Theory as advanced by Von Bertalanffy in the 1940's who defines a system theory as a set of components or elements, interacting together towards a common goal. Systems theory focuses on the relations between the parts and how they work and interact together as a whole. ISO 9001:2008 is considered a system requiring all the stakeholders to play their respective roles for the effectiveness of the system. The conceptual framework explains the relationship between ISO 9001:2008 principles and teaching and learning processes and the outcome of effective teaching and learning processes.

The researcher reviewed related literature and found out that several studies had been done with regard to ISO QMS but no study from the reviewed literature had specifically focused on the influence of ISO 9001:2008 on teaching and learning procedures and processes in the selected public and private universities in Kenya. This study employed the mixed methods Research Designs (Concurrent Triangulation Design) which enabled combination of both quantitative and qualitative research techniques in a single study. This design was appropriate for the study because it enabled the researcher to employ both qualitative and quantitative instruments in order to collect data from various participants to understand how ISO 9001:2008 influences teaching and learning procedures and processes in the selected institutions of higher learning.

The study employed both probability and non probability sampling techniques to sample the institutions and the study participants. Two public and one private university participated in the study based on the length of time they had been ISO certified. 76 full time lecturers and 372 fourth year students in the schools of education were randomly selected, 3 HODS, 3 DQA and 1 officer from KEBS were purposefully selected to participate in the study. The instruments used for data collection were questionnaires for lecturers and students, interview guides for HODS, DQA and KEBS' representative. In addition, the study used document analysis and observation guide. To ensure content reliability of the data collection instruments, the researcher pilot-tested the instruments to a population similar to the target population but which was not included in the final study to ensure that the instruments produced results that were consistent with the research questions.

The study used the Statistical Package Software for Social Sciences (SPSS) version 20 to process the data collected. Descriptive statistics such as frequencies and percentages were used to analyze data which was summarized and presented using Tables and figures. For qualitative data, the study employed direct quotations and thick descriptions to explain the views of the study participants. The analysis of the data enabled the researcher to come up with five major findings based on the five major research questions.

5.3 Summary of the Findings

The first research question was based on how the implementation of ISO 9001: 2008 influenced the procedures in teaching and learning processes in selected public and private universities in Kenya. The study found that the sampled universities have documented the procedures in teaching and learning processes. Some of the procedures documented include the following: procedures for faculty recruitment and students' admissions in universities,

procedures for administration and marking of examinations, evaluation of examinations, procedures for complaints and compliments, procedure for getting facilities such as buses for academic trips among many others.

The second research question assessed the influence of ISO 9001:2008 on the implementation of teaching and learning procedures and processes. The study found that while some of the procedures were effectively implemented, some were not. Those that were effectively implemented included the following: provision of course outlines on the first day of lectures, the inclusion of the dates for CATS and examination on the course outlines, the clarity of course outlines, teaching according to one's area of specialization and participation of lecturers in decision making. Those not effectively implemented include students not getting results before commencing on new trimesters, learning not beginning on the first day or week of opening, and not providing students' feedback to their expectations.

The third research question examined the influence of ISO 9001: 2008 on availability of resources and infrastructure. Some of the resources that were highly rated as available include: well equipped libraries, lecture halls and internet services. Through the usage of several research instruments, the study established that the selected universities have the facilities and infrastructure needed for providing quality teaching and learning particularly within the schools of education which was the focus of the study. However, not all the resources or infrastructure were highly available. The participants indicated that some facilities such as relevant journals and recommended text books were not highly available.

The fourth research question examined the challenges facing the implementation of ISO 9001:2008 certification in teaching and learning processes. The study found that the

main challenges are corruption, large classes, student leadership, demands of ISO procedures, lack of funds for research and ineffective methods of evaluating teaching and learning styles or the level of interactions between the lecturers and the students by the certifying body. The study established that the certifying body puts a lot of emphasis on external procedures and not what really happens in the lecture halls.

The fifth research question examined the strategies in place and those that could be in place to address the observed challenges. The study found that the selected universities have come up with new programs that require different styles or methods of service delivery such as distant or virtual schools. The universities also ensure that time for learning is well utilized by both students and lecturers by making the lectures to account for the lost time.

Other suggested strategies are that universities should come up with the strategy of online evaluation of lecturers to increase student participation and avoid victimization. Universities could come up with committees to hear and determine cases of corruption and cheating in examinations. All universities should introduce ISO QMS in the curriculum to help both the students and lecturers to appreciate it. Universities should do away with redundant courses that do not meet market demands. Lastly, universities should be research oriented and utilize the results to motivate more lecturers together with students to carry out research. KEBS officer said that universities should now upgrade to the latest version of ISO 9001 :2015 which involves risk based thinking where one is able to look at risks in the process, identify what could go wrong and take necessary measures to address the problem before it occurs.

5.4 Conclusions of the Study

This study assessed the influence of ISO 9001:2008 certification on teaching and learning procedures and processes in selected public and private universities in Kenya and

drew conclusions based on the research questions. Based on the findings, the study concluded that the selected universities have generated the procedures in teaching and learning but the students are not satisfied with the implementation of these procedures. This is because it is not clear to students on how their complaints are handled or implemented. In addition the study also concluded that teaching styles were largely teacher centered which should be addressed.

The study found that all the universities that participated in the study had resources such as equipped modern libraries, internet services, computer laboratories among many others and infrastructure for teaching and learning processes though not all of them are adequate to promote quality in teaching and learning processes.

The study concluded that the selected universities are facing challenges of large classes, student leadership, and implementing of ISO audit reports and inadequate funds for research. In addition, the study also concluded that the certifying body faces challenges of auditing teaching and learning processes since they do not audit direct interactions between teachers and students while in sessions.

Lastly, the study concluded from the responses of the study participants that the universities have come up with strategies to address the challenges but many strategies need to be put in place to effectively address the quality in teaching and learning processes in selected public and private universities in Kenya. The study generally concluded from the findings that to a large extent ISO 9001:2008 certification has a positive influence on generation and implementation of teaching and learning procedures and processes and on the availability of resources and infrastructure in all the universities that participated in the study.

5.5 Recommendations of the Study

Following the findings from demographic information, the study established that HODS together with some lecturers were more qualified compared to the DQA and KEBS auditors who play supervisory role in the implementation of ISO procedures in teaching and learning processes. To avoid the likelihood of compromising quality in teaching and learning processes, the study recommends that DQA together with KEBS upgrade their level of education to match that of the HODS and of the lecturers who hold PhD degrees.

The study also established that the lecturers who participated in the study largely employed teacher centered pedagogies which did not allow student participation. The study recommends that the lecturers should diversify their teaching styles to accommodate different learning styles of the students. This can be done through continuous professional development. The study also established that the lecturers and students feedback were not published at all. Most students who participated in the study did not agree that their feedback is implemented by the management. The study recommends that the selected universities implement and publish students' feedback at least annually to motivate them to fully participate in the teaching and learning processes and also to enable them to have confidence that the management cares about their views.

With regard to the resources and infrastructure, the study recommends that the management should make efforts to avail the facilities that were identified by the participants as unavailable for example accommodation facilities, recommended text books and journals. The study also recommends construction of more lecture halls to ease congestion.

On the challenges, such as corruption, abuse of drugs and alcohol, and student leadership, the study recommends that the all universities should implement the principles

of TQM and come with special committees among the lecturers to meet regularly to identify and discuss problems facing the students in teaching and learning processes and present to the administration for immediate action. Regarding the challenges of inadequate funding, the study recommends that the universities and the government establish appropriate, reliable, diversified and sustainable mechanism for financing university operations.

Regarding the challenges of the faculty not appreciating the demands of ISO in teaching and learning processes, the study recommends that university administration create continuous awareness campaign through seminars and displaying service delivery charter on the objectives of ISO standards to both teaching staff and the students. The study also recommends that all universities should consider implementing some of the strategies identified by the study participants such as adopting the latest version of ISO 9001:2015 and introduction of ISO QMS in the curriculum to help both the students and lecturers to appreciate it by offering continuous training.

Last but not least, the study established that the certifying body emphasizes on external procedures which may not necessarily be leading to the quality of teaching and learning processes. The certifying body needs to diversify their auditing processes by doing spot checking during the teaching and learning processes in order to observe the interactions of the lecturers and students and the availability of the resources. The study further recommends that the respective universities combine several Quality Management Systems such as TQM and MBO and also cultivate the culture of good practices in order to provide quality education through teaching and learning procedures and processes to meet or exceed the needs of the customers.

5.6 Suggestions for Further Studies

This study assessed the influence of ISO 9001:2008 on teaching and learning procedures and processes in selected public and private universities in Kenya. The study therefore identifies and suggests the following areas for further research:

i) A comparative study between ISO and non ISO 9001:2008 certified universities to establish whether there is a difference in generation and implementation of teaching and learning procedures and processes using the same instruments.

ii) A purely qualitative study should be carried on the relationship between ISO 9001:2008 and student behavior in institutions of higher learning.

iii) A study on the effectiveness of the combinations of several Quality Management Systems in teaching and learning processes in institutions of higher learning.

iv) Perceptions of lecturers towards the adoption of the latest version of ISO 2015.

v) Since most universities have or are in the process of adopting ISO certification a nationwide study should be undertaken to evaluate the influence of ISO on the delivery of quality education.

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APPENDICES

Appendix A: Questionnaire for the Fourth Year University Students

Dear participant,

I am a postgraduate student of the Catholic University of Eastern Africa (CUEA) currently undertaking a research on **The Influence of ISO 9001:2008 standards on teaching and learning procedures and processes in selected public and private universities in Kenya** in partial fulfillment of the requirements for Degree of Doctor of Philosophy in Educational Administration and Planning. I am kindly requesting your cooperation in responding to these questions to enable completion of the study. The findings of this study will be used for academic purposes only and your identity will be kept confidential. The participation is strictly voluntary. With your full consent and voluntary participation, kindly respond to the questions as honestly as possible.

Thank you

Kinikonda Okemasisi

Post graduate student.

With my full consent, I voluntarily accept to participate in this study by filling this questionnaire as honestly as possible.

Signature……..

Part A- Demographic Information of Students

Please tick (√) where appropriate.

1. Please state your gender Male ( ) Female ( )

2. Kindly tick your age bracket in years

18 - 22 ( )

23 – 27 ( )

28 – 31 ( )

32 - 35 ( )

Above 36 ( )

3. Indicate your school or faculty which you belong…….

4. Kindly indicate your nationality by ticking (√) Kenyan ( ) Ugandan ( ) Tanzanian ( )

Any other please specify…….

PART B: Influence of ISO 9001:2008 on teaching Procedures and processes

ISO stands for International Standardizations for Organizations

5. Are you as a student aware that your university is ISO certified? Yes ( ) No ( )

6. ISO certification emphasizes on meeting customer requirements. In teaching and learning processes a student is the primary customer. To what extent does the implementation of ISO certification meet the following teaching and learning procedures? Please indicate the extent to which you agree or disagree with the following statements such that 5 is the highest score and 1 is the lowest score

1-SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree

Teaching and learning procedures	**SD (I)**	**D (2)**	**U (3)**	**A (4)**	**SA (5)**
a) Your university has procedures for admissions of students					
b) The procedures for admissions spell out admission qualifications					
c) Your university has procedures for administration of examinations					
d) Your university invites external examiners to evaluate the exams					
e) You receive your results before the next trimester/semester begins					
f) You are aware of the procedures for expressing your complaints					
g) Your university has procedures for getting your feedback on your learning progress					
h) Your university implements your feedback					
i) Your feedback is published at least annually as evidence for implementation					

7. What other procedures are you aware of in your university with regard to teaching and learning?

Please explain briefly……

……

……

……

8. Kindly indicate the level of your satisfaction the extent to which your university meets the above procedures of ISO requirements on the quality of teaching and learning processes.

Very Dissatisfied ( ) Dissatisfied ( ) Undecided ( ) Satisfied ( ) Very satisfied ( )

PART C Influence of ISO 9001:2008 certification on quality of teaching and learning processes

9. Please indicate your opinion the extent to which you agree or disagree with the following statements on implementation of ISO procedures and process in teaching and learning in your university such that 5 is the highest score and 1 is the lowest score

(1) SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree

Items	**SD (I)**	**D (2)**	**U (3)**	**A (4)**	**SA (5)**
a) Learning begins on the first day of opening in your university					
b)Your lecturers provide course outlines on the first day of the lectures					
c)) The course outlines spell out dates for CATS and Exams and other assessments					
d) You are aware of the content of your course/program					
e) Your lecturers cover the course content in time					
f) Lecturers explain concepts in a systematic manner for you to understand					
g) You are informed of how you are assessed and evaluated					
h) You participate in designing the course coverage					
i) You have conducive environment for learning					
j) Your university is respected for offering quality education					
k) Your university promotes value education such as honesty and integrity in teaching and learning processes					
l)Your lecturers use different styles when teaching					
m) Your university equips you with knowledge and skills needed for the market					
n) The knowledge you receive leads you to participate fully in the society					

10. Kindly indicate the methods or styles used by your lecturers in the teaching process. Tick (√) as appropriate in the columns under Never used, rarely used frequently used

Methods	Never used	Rarely used	Frequently used
i) Giving lectures			
ii) Text reading and Note taking			
iii) Demonstrations			
iv) Field Trips			
v) Group discussions and presentations			
vi)Projectors			
vii)Audio-visual			
viii) Industry placement/internship			
ix) Student exchange program			

11. A part from the methods mentioned above what other methods do your lecturers use in teaching? Please list them

i)…….

ii)……

iii)…….

12. How would you rate the overall quality of teaching methods in your university?

Very poor ( ) poor ( ) Fair ( ) Undecided ( ) good ( ) Very good ( )

PART D Influence of ISO 9001:2008 certification on resource and quality of infrastructure in teaching and learning processes

According to ISO certification requirement, an institution shall determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction.

13. What would you say about the availability of the following learning resources and infrastructure? Please tick (√) as appropriate

1- Highly unavailable 2-Unavailable (3) Available (4) Highly Available

Items	**I**	**2**	**3**	**4**
a) Equipped library				
b)Well ventilated lecture halls/room				
c) Computer labs				
d) Recommended text books				
e) Text books for further research				
f) Relevant journals				
g) Internet facilities				
h)projectors				
i)Photo copying and printing places				
k) Canteens				
l) Recreation facilities				

14. Apart from these resources mentioned above what other resources and infrastructure are available in your university for teaching and learning processes?

. Please state them

I)……..

ii)……..

iii)……..

15. How would you rate your level of satisfaction on the availability of teaching and learning resources and infrastructure in your university?

Please tick appropriately. Satisfactory ( ) good ( ) undecided ( ) Excellent ( )

PART E: Challenges facing ISO certification in teaching and learning processes in your university

16. What do you think are the possible challenges facing ISO certification in teaching and learning processes in your university? Tick (√) as appropriate in the columns under: Major challenge, Minor challenge, Not a challenge and Uncertain

Items	**Major Challenge**	**Minor challenge**	**Not a challenge**	**Uncertain**
a) Challenge of delivery of quality education				
b) Challenge of commitment by lecturers				
c) Challenge of irrelevant programs				
d)stiff competition from other universities				
e) Challenge of material and equipment for teaching				
f) In adequate lecture halls				

g) Challenge of time management				
h) Challenge of dissatisfied lecturers				
i) Challenge of corruption				
j) Challenge of disproportionate student: staff ratio				

17. A part from the challenges mentioned in the table above, what other challenges does your university face in teaching and learning processes. Kindly list these challenges in the spaces provided

i……

ii……

iii……

iv……

PART F: Strategies in place to curb the challenges facing ISO certification in teaching and learning processes in your university

In order to address the challenges of ISO certification in any organization, ISO 9001:2008 among others states that the organization shall continually improve the effectiveness of the quality management system by taking action to eliminate the causes of non conformities in order to prevent recurrence.

Tick(√) as appropriate the strategies used by your university to address the challenges mentioned

1-SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree

a)Your university has come up with new and relevant programs	1	2	3	4	5
b)Your university ensures that time for learning is used well					
c)Your university has clear policy on evaluation and assessment					
d) your university has adequate resources for learning					
e) Your university has come up with different strategies for learning e.g. online learning					

19. A part from the above mentioned strategies what other strategies have your university put in place or could be put in place to address the challenges? Kindly state them

i)……

ii)……

iii)……

Thank you

Appendix B: Questionnaire for the Full-Time University Lecturers

Dear participant,

I am a postgraduate student of the Catholic University of Eastern Africa (CUEA) currently undertaking a research on **The Influence of ISO 9001:2008 standards on teaching and learning procedures and processes in selected public and private universities in Kenya** in partial fulfillment of the requirements for Degree of Doctor of Philosophy in Educational Administration and Planning. I am kindly requesting your cooperation in responding to these questions to enable completion of the study. The findings of this study will be used for academic purposes only and your identity will be kept confidential. The participation is strictly voluntary. With your full consent and voluntary participation, kindly respond to the questions as honestly as possible.

Thank you

Kinikonda Okemasisi

Post graduate student.

With my full consent, I voluntarily accept to participate in this study by filling this questionnaire as honestly as possible.

Signature……..

Please tick (√) where appropriate.

SECTION A: Demographic Information

1. Please state your gender Male ( ) Female ( )

2. Kindly tick your age bracket in years

25- 30 years ( )

31 – 35 years ( )

36– 40 years ( )

41 - 45 years ( )

46- 50 years ( )

Above 51 years ( )

3. Kindly indicate your duration of teaching experience

a) Below 4years ( )

b) Between 5-10 years ( )

c) Between 11-15 years ( )

d) Between 16-20 years ( )

Above 21 years

4. Kindly indicate your highest professional qualification

Bachelors ( )

Masters ( )

PhD ( )

Professor ( )

Any other please specify ( )

5. Indicate your faculty or department which you belong…….

6. State your nationality Kenyan ( ) Ugandan ( ) Tanzanian ( ) Any other kindly specify……

PART B: Influence of ISO 9001:2008 on teaching and learning procedures and processes

ISO stands for International Standardizations for Organizations

7. As a lecturer are you aware that your university is ISO certified? Yes ( ) No ( )

8. What kind of procedures are implemented in teaching and learning to meet ISO requirements?

Please indicate the extent to which you agree or disagree with the following statements such that 5 is the highest score and 1 is the lowest score

1-SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree (5

Teaching and learning procedures	**SD (I)**	**D (2)**	**U (3)**	**A (4)**	**SA (5)**
a) Your university has procedures for staff recruitment					
b) The procedures for recruitment spells out recruitment qualifications					
c) Your teaching according to your area of specialization					
d) Your university has procedures of how students should be assessed and evaluated					
e) There is a procedures for examination administration					
f) External examiners are usually involved in exam evaluations					
g) students receive their results before the next semester/trimester begins					
h)You are aware of the procedures to make your complaints					
i) Your university has procedures for getting your feedback on your teaching progress					
j) Your university implements your feedback					
k) Your feedback is published at least annually as evidence for implementation					

9. Kindly indicate the level of your satisfaction the extent to which your university meets the above procedures of ISO requirements on the quality of teaching and learning processes.

Very Dissatisfied (1) Dissatisfied (2) Undecided (3) Satisfied (4) Very satisfied (5)

PART C Influence of ISO 9001:2008 certification on implementation of teaching procedures and processes

In teaching and learning processes, lecturers are the key personnel how would you evaluate yourself in regard to the following statements as far as teaching and learning processes are concerned?

10. Please indicate your opinion to the extent to which you agree or disagree such that 5 is the highest score and 1 is the lowest score

1) SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree

Items	**SD (I)**	**D (2)**	**U (3)**	**A (4)**	**SA (5)**
a) Learning begins on the first day of opening					
b) As a lecturer you provide course outlines on the first day of the lecture					
c) The course outlines spell out dates for CATS and Exams and other assessments					
d) The course outline spells out the themes and concepts in a systematic manner for students to understand					
e)As a lecture you explain to your students how you evaluate and assess them in a transparent manner					
f)You are comfortable with your work load					
g)You participate in designing the course you teach					
h) You participate in decision making regarding academic activities					
i) You have conducive environment for teaching					
j)Your university is respected for offering quality education					
k)In your teaching you employ different teaching styles					

11. Kindly indicate the methods or styles that you use in teaching process. Tick (√) as appropriate in the columns under Never used, rarely used frequently used

Methods	Never used	Rarely used	Frequently used
i) Giving lectures			
ii) Text reading and Note taking			
iii) Demonstrations/narratives			
iv) Field Trips			
v) Group discussions and presentations			
vi)Projectors			

vii)Audio-visual			
viii) Industry placement/internship			
ix) Student exchange program			

12. A part from the methods mentioned above what other methods do you use? Please list them

i)……

ii)……

iii)……

PART D Influence of ISO 9001:2008 certification on resource and infrastructure in teaching and learning processes

According to ISO certification requirement, an institution shall determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction.

13. What would you say about the availability of the following learning resources and infrastructure in your university? Indicate as appropriate

1- Highly unavailable 2-Unavailable (3) Available (4) Highly Available

Items	**1**	**2**	**3**	**4**
Equipped library				
Well ventilated lecture halls/room				
Computer labs				
Recommended text books				
‘Text books for further research				
Relevant journals				
Internet facilities				

Projectors				
Photo copying and printing places				
Canteens				
Recreation facilities				

14. Apart from these resources mentioned above what other resources and infrastructure are available in your university. Please state them

I)……..

ii)……..

iii)……..

15. How would you rate your level of satisfaction on the availability of teaching and learning resources and infrastructure in your university?

Please tick appropriately. Satisfactory ( ) good ( ) undecided ( ) Excellent ( )

16. In your opinion do you think ISO certification influences the quality of the infrastructure in teaching and learning?

a) Yes ( ) b) No ( ) Explain briefly your reasons for or against

PART E: Challenges facing ISO certification in teaching and learning processes in your university

17. What do you think are the possible challenges facing ISO certification in teaching and learning processes in your university? Tick(√) as appropriate in the columns under : Major challenge, Minor challenge, Not a challenge and Uncertain

Items	Major Challenge	Minor challenge	Not a challenge	Uncertain
a) Challenge of delivery of quality education				
b) Challenge of commitment by lecturers				
c) Challenge of irrelevant programs				
d) Stiff competition from other universities				
e) Challenge of material and equipment for teaching				
f) challenge of leadership bureaucracy				
g) Challenge of meeting audit requirements				
h) Challenge of rigidity of ISO requirements				

18. A part from the challenges mentioned above, what other challenges does your university face in implementing ISO certification? Kindly list these challenges in the space provided

i……
ii……
iii……
iv……

PART F: Strategies in place to curb the challenges facing ISO certification in teaching and learning processes

19. Tick as appropriate the strategies used by your university to curb the challenges of ISO certification in teaching and learning processes.

1-SD-Strongly Disagree (2) D-Disagree (3) U-Undecided (4) A-Agree (5) SA-Strongly Agree (5

Strategies of addressing the challenges	1	2	3	4	5
a)Your university has come up with new and relevant programs					
b)Your university ensures that time for learning is used well					
c)Your university has clear policy on evaluation and assessment					
d) your university has adequate resources for teaching and learning					
e) Your university has come up with different strategies for teaching e.g online teaching					

20. A part from the above mentioned strategies, what other strategies have your university put in place or could be put in place to curb these challenges? Kindly state them

i)……

ii)……

iii)…….

Thank you

Appendix C: Interview Guide for the Heads of Department (HODS)

I am a student at the Catholic University of Eastern Africa (CUEA) pursuing a Doctorate Degree in Educational Administration and Planning. I am currently undertaking a research which is one of the requirements for the fore mentioned degree. My research topic is: **The Influence of ISO 9001:2008 standards on teaching and learning procedures and processes in selected public and private universities in Kenya.** I would kindly request you to have a one to one interview to enable me get the relevant data for my study. The findings of this study will be used for academic purposes only and your identity will be kept confidential. Please feel free to participate in this interview as honestly as possible. Thank you

Demographic Data

Part A- Demographic Information of HODs

1. Gender Male ( ) Female ( )

2. Kindly tell me your age bracket ( )

3. Kindly tell me your highest professional qualification

4. Nature of your university public ( ) private ( )

5. State your nationality……

6. Your years of working experience……

PART B: influence of ISO 9001:2008 on teaching and learning procedures and processes

7. Are you aware that your university is ISO certified? Yes ( ) No ( )

8. What procedures and processes are in place for teaching and learning in your university?

10. In your opinion do you think these procedures address the issues of quality education?

11. In your opinion do you think ISO is achieving its objectives in teaching and learning?

PART C Influence of ISO 9001:2008 implementation of teaching and learning processes

11. What roles are students and lecturers expected to play to meet ISO requirements in teaching and learning processes?

a) Students' roles b) lectures' roles

12. As the person in charge of teaching and learning processes in your department, how do you verify that both the students and the lecturers play effectively their respective roles in conformity with ISO requirements?

13. Do you think ISO certification has any influence in the students' learning styles and the lecturers' teaching styles?

14. What are the methods frequently used by the lecturers in teaching process?

15. In your opinion do you think these methods are effective?

16. Do you have avenues for students and lectures to air out their complaints?

17 How do you get feedback from students and lecturers in your department?

18. What further comments would you like to make as far as teaching and learning is concerned in your department?

PART E Influence of ISO 9001:2008 certification on resource and infrastructure in teaching and learning processes

According to ISO certification requirement, an institution shall determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction.

19. What resources and infrastructure are available to enhance teaching and learning in your department?

20. Are they adequate for the student population?

21. How would you rate your level of satisfaction on the availability of teaching and learning resources and infrastructure in your university?

PART D: Challenges facing ISO certification in teaching and learning processes in your university

22. What do you think are the possible challenges facing ISO certification in teaching and learning processes in your department?

23. What strategies are in place to address these challenges in teaching and learning processes in your department in particular and in the university in general? What other strategies would you suggest?

24.In your view do you think ISO is relevant in teaching and learning process?

Thank you

Appendix D:Interview Guide for The Directorate of Quality Assurance in Universities

I am a student at the Catholic University of Eastern Africa (CUEA) pursuing a Doctorate Degree in Educational Administration and Planning. I am currently undertaking a research which is one of the requirements for the fore mentioned degree. My research topic is: **The Influence of ISO 9001:2008 standards on teaching and learning procedures and processes in selected public and private universities in Kenya.** I would kindly request you to have a one to one interview to enable me get the relevant data for my study. The findings of this study will be used for academic purposes only and your identity will be kept confidential. Please feel free to participate in this interview as honestly as possible. Thank you

Part A- Demographic Information of DQA

1. Gender Male ( ) Female ( )

2. Kindly tell me your age bracket

3Kindly tell me your highest professional qualification

4. State the type of your university please public or private

5. State your nationality……

6. Your years of working experience……

PART B: Implementation of ISO 9001:2008 certification on teaching and learning procedures and processes

7. What procedures and processes are in place for teaching and learning in your university?

8. In your opinion do you think these procedures address the issues of quality education?

PART C Influence of ISO 9001:2008 certification on implementation of teaching and learning processes

9. What roles are students and lecturers expected to play to meet ISO requirements in teaching and learning processes?

a) Students' roles b) lectures' roles

10. As the person in charge of assuring quality in teaching and learning processes, how do you verify that both the students and the lecturers play effectively their respective roles in conformity with ISO requirements?

11. Do you think ISO certification has any influence in the students' learning styles and the lecturers' teaching styles?

12. How is quality assured in the students' learning styles and the lecturers' teaching styles?

13. Do you have avenues for the students and lectures to air out their complaints?

14. How do you get feedback from students and lecturers on issues of quality in teaching and learning?

15. what further commends would you like to make as far as quality assurance is concerned in teaching and learning processes?

PART E Influence of ISO 9001:2008 standards on resource and infrastructure in teaching and learning processes

According to ISO certification requirement, an institution shall determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction.

19. What resources and infrastructure are available to enhance teaching and learning in your university?

20. Are they adequate and of quality? How often does the university procure resources? Are there transparent processes for procuring these resources?

PART D: Challenges facing ISO certification in teaching and learning processes in your university

22. What do you think are the possible challenges facing ISO certification in teaching and learning processes in your university?

23. What strategies do you use to address these challenges?

24.In your view do you think ISO is relevant in teaching and learning process?

Thank you

Appendix E: Interview Guide for KEBS

I am a student at the Catholic University of Eastern Africa (CUEA) pursuing a Doctorate Degree in Educational Administration and Planning. I am currently undertaking a research which is one of the requirements for the fore mentioned degree. My research topic is: **The Influence of ISO 9001:2008 standards on teaching and learning procedures and processes in selected public and private universities in Kenya.** I would kindly request you to have a one to one interview to enable me get the relevant data for my study. The findings of this study will be used for academic purposes only and your identity will be kept confidential. Please feel free to participate in this interview as honestly as possible. Thank you

Part A- Demographic Information of KEBS' Representative

1. Gender Male ( ) Female ( )

2. Kindly tell me your age bracket……..

3. Kindly tell me your highest academic qualification……

4. State your nationality……

5. Your years of auditing experience in universities ……

PART B: influence of ISO 9001:2008 certification on teaching and learning procedures and processes

6. What processes and procedures are available in teaching and learning in universities that meet ISO certification requirements?

7. How often do you audit these processes or procedures?

8. What follow up is done to establish whether the recommendations are implemented?

9. In your opinion do you think these procedures are adequate in measuring the quality of teaching and learning processes?

PART C Influence of ISO 9001:2008 certification on implementation of teaching and learning procedures and processes

11. What roles are students and lecturers expected to play to meet ISO requirements in teaching and learning processes?

a) Students' roles b) lectures' roles

12. How do you verify that both the students and the lecturers play effectively their respective roles in conformity with ISO requirements?

13 How relevant is implementation of ISO procedures in the students' learning styles and the lecturers' teaching styles?

14 How do you get feedback from students and lecturers on issues of quality in teaching and learning?

15. What further comments would you like to make as far as quality assurance is concerned in teaching and learning processes?

PART E Influence of ISO 9001:2008 certification on resource and infrastructure in teaching and learning processes

According to ISO certification requirement, an institution shall determine and provide resources and infrastructure needed to implement and maintain the quality management system and enhance customer satisfaction.

16. Do you audit the resources and quality of infrastructure in teaching and learning processes universities?

17. How often and what measures do you take for inadequacy of these resources?

PART D: Challenges facing ISO certification in teaching and learning processes in your university

18. What challenges do you face when auditing the teaching and learning procedures and processes in both public and private universities in Kenya?

19. What kind of strategies do you use to address these challenges?

20. In your view do you think ISO is relevant in teaching and learning process?

Thank you

Appendix F: Document Analysis Guide

The study will analyze the following documents

i) The list of faculty staff and fourth year students

ii) Policy documents on: faculty recruitment, student admission to the university

iii) Procedures on setting and evaluation of examinations

iv) Audit report on teaching and learning processes and resources

v) Academic calendars

vi) Record on student and faculty feedback

Appendix G: Observation Guide on Teaching and Learning Resources/Infrastructure

Name of the university----------

Date----------

Items	**Available**	**Not available**	**Comments**
Equipped library			
Lecture halls			
Recreation facilities			
Laboratory facilities			
Condition of environment			
Service points/photocopying and printing			

Appendix H: Reliability Testing for Teachers

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.843	.841	21

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The university has procedures for staff recruitment	72.9286	49.158	.396	.821
The procedures for recruitment spells out recruitment qualifications	73.0000	47.564	.529	.812
There is a procedures for examination administration	73.0000	49.818	.191	.832
Students receive their results before the next semester/trimester begins	74.0357	38.071	.682	.875
Lecturers are aware of the procedures to make complaints	73.4286	41.704	.763	.879
The university implements lecturers' feedback	74.1429	44.779	.601	.699
The course outlines spell out dates for CATS and Exams and other assessments	73.7143	53.662	-.152	.785
Lecturers provide course outlines on the first day of the lecture	73.2500	45.936	.477	.809
Giving lectures	74.9643	55.526	-.341	.862
Demonstrations/narratives	74.8929	50.352	.294	.827
Recommended text books	74.3214	50.768	.115	.837
Photo copying and printing places	74.1786	48.949	.417	.820
Recreation facilities	74.4643	44.326	.552	.801
Challenge of delivery of quality education	74.7500	55.900	-.362	.865
Challenge of irrelevant programs	74.9643	54.362	-.206	.860
Stiff competition from other universities	74.7500	55.391	-.316	.862
The university has come up with new and relevant programs	73.1786	47.131	.531	.710
The university has clear policy on evaluation and assessment	73.0714	48.068	.603	.712
The university offers program/curriculum that links students to the job market	73.3214	45.168	.634	.699
The university has come up with different strategies for teaching e.g online teaching	73.3571	44.452	.634	.797
The university implements feedback from lecturers	73.7143	42.971	.556	.697

Appendix I: Reliability Testing for Students

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.853	.875	20

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
The University has procedures for admissions of students	99.5081	135.582	.357	.515	.816
The University has procedures for administration of examinations	99.6452	134.434	.316	.564	.813
Students receive the results before the next trimester/semester begins	101.1828	127.481	.332	.330	.709
The university has procedures for getting students' feedback on learning progress	100.3790	130.948	.350	.426	.709
Students' feedback is published at least annually as evidence for implementation	101.3145	128.842	.375	.381	.706
Respondents' level of satisfaction on University's meeting procedures for ISO requirements	100.7823	133.405	.307	.232	.712
Lecturers provide course outlines on the first day of the lectures	100.2661	129.608	.363	.269	.807
Lecturers cover the course content in time	99.9866	114.477	.149	.148	.884
Students are informed of how they are assessed and evaluated	100.1882	131.339	.359	.311	.709
Students have conducive environment for learning	99.9731	130.846	.370	.311	.708
The university promotes value education such as honesty and integrity in teaching and learning processes	99.7285	132.198	.412	.475	.808
Lecturers use different styles when teaching	99.8844	131.698	.433	.440	.707
The university equips you with knowledge and skills needed for the market	99.7392	132.123	.463	.456	.707
The knowledge studesnts receive leads them to participate fully in the society	99.8575	130.624	.462	.436	.705
Text reading and Note taking	101.4946	137.954	.218	.260	.718
Demonstrations	101.7742	135.970	.313	.380	.814
Group discussions and presentations	101.3468	139.505	.129	.303	.821

Text books for further research	100.7419	134.742	.361	.365	.812
Internet facilities	100.5806	136.654	.262	.330	.816
Recreation facilities	100.8898	134.772	.298	.271	.814
Challenge of delivery of quality education	101.3333	143.479	-.134	.372	.833
Challenge of commitment by lecturers	101.2500	144.361	-.178	.429	.735
Stiff competition from other universities	101.3898	141.381	-.032	.167	.829
Challenge of time management	101.3441	142.507	-.085	.362	.831
Challenge of corruption	101.1828	138.624	.078	.308	.825
The university has come up with new and relevant programs	100.3414	131.735	.377	.395	.808
The university ensures that time for learning is used well	100.2500	129.396	.412	.485	.805
The university has adequate resources for learning	99.9328	129.163	.482	.540	.802
The university has come up with different strategies for learning e.g online learning	99.7930	132.515	.371	.367	.809
The university implements feedback from students	100.5430	128.847	.391	.439	.805

Appendix J: Letter from The Catholic University of Eastern Africa

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

Faculty of Education

Department of Educational Administration and Planning

Date: 16th February 2016

To Whom It May Concern

Ref: Kinikonda Okemasisi PhD/ED/1023805

I am writing to introduce to you **Kinikonda Okemasisi who** is a final year PhD student at the Catholic University of Eastern Africa, Nairobi - Kenya; and to request you to assist her to accomplish her academic research requirements.

Okemasisi's PhD Degree specialization is Educational Administration and Planning. She has completed all course work requirements for this programme. However, every student in the programme is required to conduct research and write a report/thesis submitted during the final years of studies.

Accordingly, Okemasisi's proposal for research has been approved. She will conduct research on the following topic;

"Influence of ISO 9001: 2008 Certification on the quality of Teaching and Learning Processes in selected Public and Private Universities in Kenya."

Thanking you in advance for any assistance you will offer to Okemasisi.

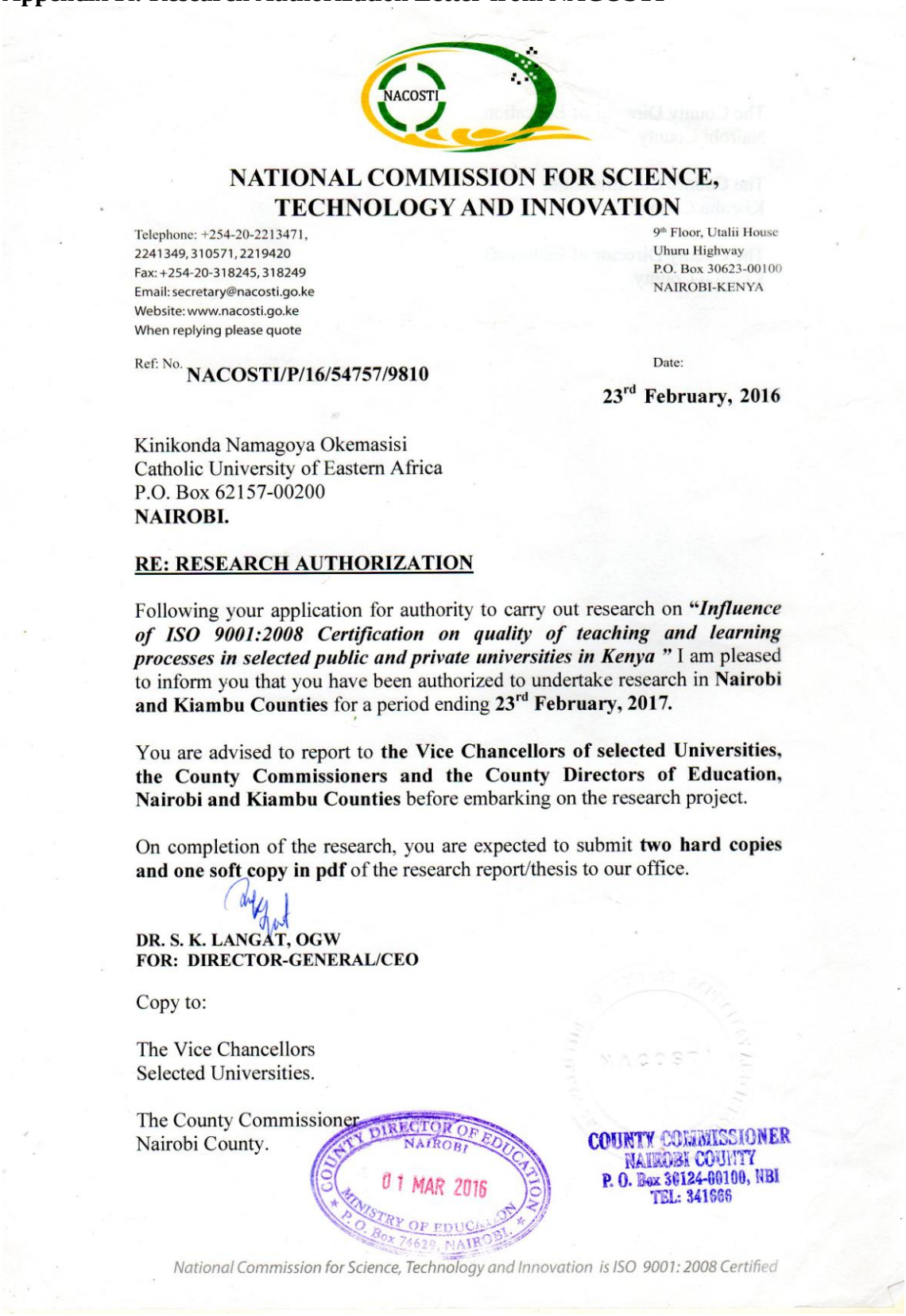
Sincerely,

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA DEPARTMENT OF EDUCATIONAL ADMINISTRATION & PLANNING 16 FEB 2016 P.O. Box 62157 - 00200, NAIROBI

Dr. Marcella Momanyi
Head of Department
Educational Administration and Planning

THE CATHOLIC UNIVERSITY OF EASTERN AFRICA (CUEA) P.O. BOX 62157 00200 Nairobi – KENYA
Tel: 020-2525811-5, 8890023-4, Fax: 8891084, Email: pgse@cuea.edu, Website: www.cuea.edu
Founded in 1984 by AMECEA (Association of the Member Episcopal Conference in Eastern Africa)

Appendix K: Research Authorization Letter from NACOSTI



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/16/54757/9810**

Date: **23rd February, 2016**

Kinikonda Namagoya Okemasisi
Catholic University of Eastern Africa
P.O. Box 62157-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of ISO 9001:2008 Certification on quality of teaching and learning processes in selected public and private universities in Kenya "*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi and Kiambu Counties** for a period ending **23rd February, 2017.**

You are advised to report to **the Vice Chancellors of selected Universities, the County Commissioners and the County Directors of Education, Nairobi and Kiambu Counties** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Vice Chancellors
Selected Universities.

The County Commissioner
Nairobi County.

COUNTY DIRECTOR OF EDUCATION NAIROBI 01 MAR 2016 MINISTRY OF EDUCATION P.O. Box 74629, NAIROBI

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

Appendix L:Research Permit from NACOSTI



CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 7955

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
SR.KINIKONDA NAMAGOYA OKEMASISI
of THE CATHOLIC UNIVERSITY OF EASTERN AFRICA, 5478-30100
eldoret,has been permitted to conduct research in *Kiambu , Nairobi Counties*
on the topic: *INFLUENCE OF ISO 9001:2008 CERTIFICATION ON QUALITY OF TEACHING AND LEARNING PROCESSES IN SELECTED PUBLIC AND SELECTED PUBLIC AND PRIVATE UNIVERSITIES IN KENYA*
for the period ending:
23rd February,2017

Permit No : NACOSTI/P/16/54757/9810
Date Of Issue : 23rd February,2016
Fee Recieved :Ksh 2000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

Appendix. M: Application Letter to Kenyatta University

To the Vice-Chancellor

Through the Deputy Vice Chancellor Research,

Innovation and Outreach

P.O Box 43844-00100

Nairobi.

Dear sir/madam,

RE: AUTHORIZATION TO COLLECT DATA IN KENYATTA UNIVERSITY

I am a student at The Catholic University of Eastern Africa, Nairobi-Kenya pursuing a Doctorate Degree in Educational Administration and Planning. This is my final year of study but before completion of the program, the university requires that every student conducts a research and writes a report and submits it to the university and to National Commission for Science, Technology and Innovation among other relevant authorities.

I am therefore requesting to be authorized to collect data from undergraduate students in the school of education, the full time lecturers, the Head of Departments and from Directorate of Quality Assurance in the above mentioned university in order to fulfill this requirement and complete my study and render better service to the society. My research topic is: **"Influence of ISO 9001:2008 Standards on teaching and learning processes in selected public and private universities in Kenya".** The researcher has selected Kenyatta University because it is one of the universities within the study location that has been ISO 9001:2008 certified over four years and thus possesses pertinent information for this particular study.

Attached are; a research permit, a letter of authorization from NACOSTI, a letter from the Affiliate University and approved proposal duly signed by the researcher and the supervisors

I look forward for your positive response.

Yours faithfully,

Kinikonda Okemasisi

Appendix N: Authorization Letter from Kenyatta University

KENYATTA UNIVERSITY

OFFICE OF DEPUTY VICE-CHANCELLOR, RESEARCH, INNOVATION AND OUTREACH

P. O. Box 43844 - 00100
Nairobi. Kenya
Tel. 254-20-810901 Ext. 026
E-mail: dvc-rio@ku.ac.ke

Ref: KU/DVCR/RCR/VOL.2/1

3rd March, 2016

Ms Kinikonda Okemasisi,
Catholic University of Eastern Africa,
P. O. Box 62157 - 00200
Nairobi

Dear Ms. Okemasisi,

RE: **REQUEST TO COLLECT RESEARCH DATA AT KENYATTA UNIVERSITY**

This is in reference to your letter dated 2nd March, 2016 requesting for authorization to collect data at Kenyatta University towards your PhD degree titled: *Solid Influence of ISO 9001:2008 Certification on the Quality of Teaching and Learning Processes in Selected Public and Private Universities in Kenya.*

I am happy to inform you that considering the purely academic nature of your research and the uncontroversial nature of your data collection instruments, your request has been approved by University Management. It has been noted that you will collect data from a sample of undergraduate Education students, a Chairman of Department in the School of Education, Director in charge of Quality Assurance and some full-time lecturers.

Yours Sincerely,

Prof. F. Q. Gravenir
Deputy Vice-Chancellor
Research, Innovation & Outreach

Appendix O: Application Letter to University of Nairobi

To the Vice-Chancellor University of Nairobi

Through the Deputy Vice Chancellor Research,

P.O Box 30199-00100

Nairobi

Dear sir/madam,

RE: AUTHORIZATION TO COLLECT DATA IN UNIVERSITY OF NAIROBI

I am a student at The Catholic University of Eastern Africa, Nairobi-Kenya pursuing a Doctorate Degree in Educational Administration and Planning. This is my final year of study but before completion of the program, the university requires that every student conducts a research and writes a report and submits it to the university and to National Commission for Science, Technology and Innovation among other relevant authorities.

I am therefore requesting to be authorized to collect data from undergraduate students in the school of education, (Kikuyu Campus), from the full time lecturers, the Head of Departments and from Directorate of Quality Assurance in the above mentioned university in order to fulfill this requirement and complete my study and render better service to the society.

My research topic is: **"Influence of ISO 9001:2008 certification on the quality of teaching and learning processes in selected public and private universities in Kenya".** The researcher has selected University of Nairobi because it is one of the universities within the study location that has been ISO 9001:2008 certified over four years and thus possesses pertinent information for this particular study.

Attached are; a research permit, a letter of authorization from NACOSTI, letter from the affiliate university and a copy of my student ID.

I look forward to your positive response.

Yours faithfully,

Kinikonda Okemasisi

Appendix P: Authorization Letter from University of Nairobi

UNIVERSITY OF NAIROBI

OFFICE OF THE DEPUTY VICE - CHANCELLOR

(Research, Production & Extension)

Prof. Lucy W. Irungu B.Sc., M.Sc., Ph.D.

P.O. Box 30197-GPO.
00100,Nairobi-Kenya
Telephone: +254-20-2315416 (DI), 318262

Fax:0202317251
Email:dvcrpe@uonbi.ac.ke

UON/RPE/3/5/Vol.XVI/54 **March 21, 2016**

Kinikonda Okemasisi
The Catholic University of Eastern Africa
PO Box 62157-00200
Nairobi.

Dear Okemasisi

AUTHORITY TO CARRY OUT RESEARCH AT THE UNIVERSITY OF NAIROBI

I refer to your requested dated March 2, 2016 to conduct research at the University of Nairobi, for your Ph.D Thesis entitled: ***Influence of ISO 9001:2008 certification on the quality of teaching and learning processes in selected public and private universities in Kenya".***

I write to inform you that your request has been approved.

You are however required to share the findings of your study with the University of Nairobi by depositing a copy of your research findings with the Director, Library & Information Services on completion of your study.

PROF. HENRY W. MUTORO
AG. DEPUTY VICE-CHANCELLOR
(RESEARCH, PRODUCTION AND EXTENTION)

Copy to: Vice-Chancellor
DVC (A&F)
DVC (AA)
DVC (SA)
Principal, CEES
Director, Library & Information Services
Director, Quality Assurance

BW/jwn

ISO 9001:2008 CERTIFIED

The Fountain of Knowledge Providing leadership in academics excellence