

**INFLUENCE OF INTERNATIONAL STANDARDS FOR
ORGANIZATIONS 9001: 2008 ON ACADEMIC
PERFORMANCE IN COAST INSTITUTE OF
TECHNOLOGY, KENYA**

Joseph, M. Malechwani

**A Research Project Submitted in Partial Fulfillment of the
Requirements for the Degree of Master of Education in
Educational Planning
University Of Nairobi**

2013

DECLARATION

This research project is my original work and has not been submitted for an award in any other university,

Joseph Muthiani Malechwanzi

Reg. E55/62775/2012

This research project has been submitted for examination with our approval as university supervisors.

Prof. Genevieve Wanjala

Associate professor

Department of Educational Administration and planning

University of Nairobi

Mr. Ferdinand Mbeche

Lecturer

Department of Educational Administration and planning

University of Nairobi

DEDICATION

To these special people whose endless love and support I can never repay: my siblings and my parents Mr. and Mrs. Chrispus Malechwanzi.

ACKNOWLEDGEMENTS

I am grateful to my supervisors; Prof. Genevieve Wanjala and Mr. Ferdinand Mbeche for the invaluable assistance they gave me throughout the research period. I would also like to thank my lecturers at the post graduate studies. I am also highly indebted to a multitude of scholars and researchers, most of which naturally are not personally known to me. Their works, which are cited in this project, were quite priceless to me.

Many of my friends encouraged and in deed helped me take up this course. May I also appreciate and acknowledge the assistance I received from my classmates of M.ED (Administration and planning) class of 2010/2012 and my workmate Mr. Joseph Mikangi.

Further, I am indebted to the respondents who kindly spared their time to answer the questions to the finest details. Without their co-operation, this work would have been impossible.

For all the rest who wished me well, I say, “thank you very much and may the good Lord shower us with His blessings.”

ABSTRACT

The ever quickening pace of technological evolution is now more than ever affecting the way standards are proposed, developed and implemented in Kenya's institutions of learning. The international organization for standardization (ISO) is among the organizations that ensure that there is standardization of services worldwide so that the services are acceptable by different consumers. High demand and changes in consumer tastes have made organizations globally and locally to devise ways of coping with the ever increasing demands of their customers by ensuring that they standardize their services using ISO 9001 certification as a means of standardization. The purpose of this research study, therefore, was to investigate the influence of International Standards for Organizations 9001: 2008 on the academic performance in Coast Institute of Technology. The research becomes important because minimal study has been undertaken in Coast Institute of Technology to evaluate success or failure of ISO standards, since its implementation in July, 2013. The objectives of the study were to; establish the level of students and teachers awareness on ISO 9001: 2008 standards, determine the influence of ISO 9001: 2008 standards on academic performance and find out the extent to which ISO 9001: 2008 procedures on the academics policy are followed by teachers.

System theory and the kaizen philosophy of continuous improvement were used as a theoretical framework to guide the study.

The research used correlational design to determine the predictors of academic performance in relation to independent variables.

The study population comprised teachers and students in Coast Institute of Technology. The study adopted a stratified random sampling where nine (9) administrators, forty seven (47) and one hundred and twelve students (112) were used as respondents. The researcher used both primary and secondary data during the research. Primary data collection instruments were a combination of questionnaires and interview guides. In addition, the researcher used secondary data sources and literature. To ensure reliability, the questionnaires were pre-tested to a selected sample of 10 students, 5 teachers and 1 administrator but not on the actual sample.

It was found that 69 percent of CIT teachers and students had embraced the use and requirements of ISO 9001:2008 standards. It was further found that 68 percent of CIT teachers and students agreed that implementation of ISO 9001:2008 standards had improved the academic performance. This shows that the acquisition of the ISO 9001:2008 certificate played an important role in improving the academic performance of the institute.

The study concluded that ISO implementation at CIT has been well embraced. Teachers are capable of improving the institution through continuous

assessment of the institution's standard operating procedures on curriculum towards achieving good academic performance.

The study however recommends that more awareness, especially at the junior cadre of teachers is needed as compared to the senior cadre. Students in general need more interactive programs to make them own the implementation. It is further recommended that corrective measures should be put in place.

TABLE OF CONTENTS

Contents

Page

Title Page	i
Declaration.....	ii
Dedication.....	iii
Acknowledgements.....	iv
Abstract.....	v
Table of Contents	vi
Appendices.....	xii
List of Tables	xiii
List of Figures	xiv
List of Graphs	xv
List of Acronyms and Abbreviations	xvi

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study	1
1.2 Statement of the Problem.....	5
1.3 Purpose of the Study	6
1.4 Objectives of the Study.....	6

1.5 Research Questions.....	7
1.6 Significance of the Study	7
1.7 Limitations of the Study.....	8
1.8 Delimitations of the Study.....	8
1.9 Basic Assumptions of the Study.....	8
1.10 Definition of Significant Terms.....	9
1.11 Organization of the Study.....	9

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction.....	11
2.2 The ISO 9001 Basic Principles.....	11
2.3 Process Based Quality Management System.....	13
2.4 Impact of Quality Management Systems in organizations.....	14
2.5 Quality in Teaching and Learning.....	16
2.6 Summary of Literature.....	18
2.6 Theoretical Framework.....	19
2.7 The Conceptual Framework.....	20

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction.....	22
3.2 Research Design.....	22
3.3 Target Population.....	23

3.4 Sample Size and Sampling Procedure.....	23
3.5 Research Instruments.....	25
3.5.1 Validity of the Instrument.....	26
3.5.2 Reliability of the Instrument.....	27
3.6 Data Collection Procedures.....	27
3.7 Data Analysis Techniques.....	28

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction.....	29
4.2 The questionnaire Return Rate.....	29
4.3 Demographic Information of Respondents.....	30
4.3.1 Respondent’s Age Profile.....	30
4.3.2 Students’ Year of Study.....	32
4.3.3 Students’ Level of Study.....	33
4.3.4 Teachers’ Educational Qualification.....	34
4.3.5 Teachers’ Teaching Experience.....	35
4.4 The relationship between awareness on ISO standards and academic performance	36
4.4.1 Regression Analysis on Variables.....	38
4.5 The relationship between influence of ISO 9001: 2008 standards and academic performance.....	39
4.5.1 Regression Analysis on Variables.....	41

4.6 The relationship between ISO 9001: 2008 standards on curriculum implementation procedures and the academic performance.....	43
4.6.1 Regression Analysis on Variables.....	46

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction.....	49
5.2 Summary of Study.....	49
5.3 Conclusion	52
5.4 Recommendations	53
5.5 Suggestions for Further Research....	54
References.....	56

APPENDICES

Contents

Page

Appendix 1: Letter of Introduction.....	61
Appendix 2: Questionnaire to students.....	62
Appendix 3: Questionnaire to teachers.....	65
Appendix 4: Questionnaire to administrators.....	70
Appendix 5: Interview schedule to Teachers	75
Appendix 6: Frequency of respondents on ISO awareness.....	76
Appendix 7: Crosstabs of ISO awareness and academic performance.....	77
Appendix 8: Frequency of respondents on Curriculum implementation.....	78
Appendix 9: Crosstabs of Curriculum implementation and academic performance.....	79
Appendix 10: Frequency of respondents on ISO Implementation.....	80
Appendix 11: Crosstabs of ISO Implementation and academic performance.....	81
Appendix 12: Frequency of respondents on academic performance.....	82
Appendix 13: Research Authorization	83

LIST OF TABLES

Contents

Page

Table 1: Result Analysis for KNEC 2010, 2011 and 2012.....	4
Table 2: Growth of ISO 9001 certification	11
Table 3: R ² Values for ISO Awareness and Academic Performance.....	38
Table 4: R ² Values for Curriculum implementation and Academic Performance	41
Table 5: R ² Values for ISO Implementation and Academic Performance....	46
Table 6: Summary of Regression analysis for all Variables.....	47

LIST OF FIGURES

Contents	Page
Figure 1: Model of a Process Based Quality Management System	14
Figure 2: Conceptual Framework	21
Figure 3: Respondents Response Rate	30
Figure 4: Respondents' Age Profile	31
Figure 5: Students' Year of Study	32
Figure 6: Students' Level of Study	33
Figure 7: Teachers Educational Level	34
Figure 8: Teachers Teaching Experience	35

LIST OF GRAPHS

Contents	Page
Graph 1: Teachers and Students Awareness Level on ISO Standards	37
Graph 2: Relationship between ISO Awareness and Academic Performance.	39
Graph 3: Teachers and Students Responses on Influence of ISO Standards	40
Graph 4: Relationship between Curriculum Implementation and Academic Performance.....	42
Graph 5: Teachers and Students Responses on Academic Performance.....	43
Graph 6: Teachers Adherence Level to procedures on Curriculum Implementation.....	45
Graph 7: Relationship between ISO Implementation and Academic Performance.....	47

LIST OF ACRONYMS AND ABBREVIATIONS

CEO	Chief Executive Officer
CIT	Coast Institute of Technology
GOK	Government of Kenya
ISO	International Standardization Organization
KNEC	Kenya National Examination Council
OECD	Organization for Economic Cooperation and Development
PC	Performance Contracting
QA	Quality Assurance
QMS	Quality Management Systems
SPSS	Statistical Package for Social Science
TVET	Technical, Vocational and Education Training
TQM	Total Quality Management
UK	United Kingdom
USA	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

ISO (International Organization for Standardization) is a network of national standards bodies which gives state of the art specifications for products, services and good practices, helping to make industry more efficient and effective. It began in 1946 when delegates from 25 countries met at institute of civil engineers in London and decided to create a new international organization to facilitate international coordination and unification of industrial standards. ISO has published more than 18000 standards, but for this study, ISO 9001 Quality Management System will be focused for its requirements. ISO 9001 Standard has the latest revision by 2008. The ISO 9001:2008 is an international standard for quality management systems that specify the quality management systems requirement and provides a framework to establish, document and maintain an effective quality management systems in order to meet client requirements, ISO (2008).

Education is one of the basic services offered by governments and other stakeholders to society. Bray (1986, pg 40) posits that “education is a tool for economic development.” If education is to meet this goal, it must be of high quality. It is also important to note that the debate on the attributes of quality of education is still in progress. Thus, with no conclusive position as to what makes quality of education, it is critical that as many views as possible are

analyzed to have a comprehensive grasp of the key tenets of the quality of education. It is when a wider view of the quality of education is achieved that a fair attempt can be made in analyzing the internal efficiency of an education system, which is a key dimension of the quality of education.

Globalization is yet another feature that exerts pressure to intensify the debate on quality of education. Ross (2002, pg 7) gives an apt summary of this when he says, “The quest for quality education is today inextricably bound up with the processes and impact of globalization.” Therefore, schools need to improve the quality of education if they are to be significant players in the world’s economic arena. The education system currently competes for resources and students even beyond the national boundaries.

In the UK, as in many other countries using QMS, there is a national drive for ‘improved’ teaching and learning, (Wood, 2002). The British Education Ministry recognizes the urgent need for national competitiveness and an improved standard of education and training. In Kenya most institutions both private and public have adopted ISO standards as a strategy for effectiveness in evaluating organization’s ability to meet all its goals, subject to environmental uncertainty and internal politics and constraints.

Many researchers studied the ability of ISO 9001 in achieving its main objectives of adding value to organization’s implementing it in different economies in general or by different sectors in particular. For example, (Pan, 2003) discussed ISO 9001 implementation in Far East Countries, namely in Taiwan, Japan, Hong Kong and Korea. The study involved investigating

firms' motivation for certification, their implementation experiences and the benefits received. The main conclusion for implementing ISO 9001 in these countries was positive in general with some differences in motivation for and benefits gained after implementing ISO 9001. He concluded that there are common factors between these countries to go for ISO 9001 certification, namely, external pressure, gaining competitive edge, internal and external portions and improvement of public relations.

Like the many institutions in Kenya which are ISO 9001: 2008 certified, Coast Institute of Technology has the challenge of maintaining the targets as documented in the institution's Quality Management Systems and ensuring continuous improvement. Since the ISO 9001:2008 certification in April, 2012 there has not been a detailed independent assessment to gather facts for showing if the institution is keeping to the ISO requirements as documented in the institution's Quality Management Systems and the response of the teachers and students as regards ISO procedures on curriculum implementation.

The analysis of KNEC results for the years; 2010, 2011 and 2012 that is before and after the implementation ISO 9001: 2008 standards shows that Coast Institute of Technology mean score has constantly been improving as shown in Table 1.

Table1: Result Analysis for KNEC 2010, 2011 and 2012

YEAR	TOTAL NO.	PASS		REFER		FAIL		ABSENT	
		NO.	%	NO.	%	NO.	%	NO.	%
2010	313	191	61	73	23	41	13	8	3
2011	504	353	70	103	21	37	7	10	2
2012	246	184	76	44	18	9	3	9	3

Source: Examination office, Coast institute of Technology (2013).

Coast Institute of Technology has constantly been improving in students' academic performance as compared to previous years since ISO 9001: 2008 standards were implemented in July, 2010.

However, the issue of continuous improvement remains a concern for overall students academic performance as shown in Table 1 where the number of fails and refers is still high. It is for this reason that this study was necessary for timely establishment of non-conformities for appropriate action, to close the gaps and to guide in continual improvement of students' academic performance in line with ISO 9001:2008 requirements. The study will also help keep abreast with emerging competition from other academic institutions through efficiency in operations and meeting the customer (students) expectations.

1.2 Statement of the Problem

In recent years, ISO standards have been implemented in many organizations especially public institutions established by the government of Kenya. The Vision 2030 goals include improved performance and quality service delivery, promotion of transformative leadership in the Government of Kenya that meets expectations of the citizens, among other clients (Kenya Vision 2030).

Despite most organizations in both the public and private sector in Kenya embracing ISO certification as a way of contributing to customer satisfaction and staff motivation as well as having an international standard on which they are operating, minimal study has been done to evaluate the success of QMS after ISO certification in these organizations particularly at public sector level.

If such evaluation studies are not conducted quality performance will decline and customers will not be satisfied with service delivery. A good example is the Nairobi city council in 2012, whose ISO certificate was cancelled after continued complaints from customers.

Coast Institute of Technology (CIT) is an example of the public institutions which adopted the QMS in July, 2010 and received the ISO 9001:2008 certification in April, 2012. Since, then, there has not been a detailed independent assessment to gather facts for showing if the institution is keeping to the ISO requirements as documented in the institutional Quality Management Systems and the response of the teachers and students as regards ISO procedures. The Technical Director of Education (Mr. Owate) while addressing students and teachers during ISO celebration lamented over the poor performance of students in Coast region. He noted that Implementation

of ISO standards should help the institution towards attaining the core business of education (speech, 25th Jan, 2013). The study therefore, seeks to analyze whether ISO standards are followed and how they affect students' performance in academics. The knowledge obtained from the study will help in maintaining the targets documented in the institution's Quality Management Systems and ensuring continuous improvement.

1.3 Purpose of the Study

The purpose of this study was to determine the influence of International Standards for Organizations 9001: 2008 on academic performance at the Coast Institute of Technology.

1.4 Objectives of the Study

The objectives of this study were:

- a) To establish the level of awareness of students and teachers of Coast Institute of Technology about the ISO 9001:2008 standards.
- b) To determine the influence of ISO 9001:2008 standards on students' academic performance in Coast Institute of Technology.
- c) To assess the extent to which ISO 9001:2008 standards on curriculum implementation procedures are followed by teachers in CIT.

1.5 Research Questions

The study was guided by the following research questions:

- a) What is the level of awareness of students and teachers of Coast Institute of Technology on ISO 9001:2008 standards?
- b) In what ways have ISO 9001:2008 standards influenced students' academic performance in Coast Institute of Technology?
- c) To what extent are the ISO 9001:2008 standards on curriculum implementation procedures followed by CIT teachers?

1.6 Significance of the Study

Information gathered in this study will be necessary for timely establishing non-conformities to appropriate action, close the gaps and guiding in continual planning for improvement of the CIT academic performance in line with ISO 9001:2008 requirements. The findings of this study have revealed challenges faced by teachers in the implementation of curriculum and the gains in terms of students' academic performance. This will provide useful information to assist the management of Coast Institute Technology in evaluating the effectiveness of ISO 9001: 2008 standards. The study may also provide information to guide Ministry of Higher Education Science and Technology and policy makers on future formation and implementation of policy guidelines. The study findings may be used as a baseline information source for future related studies.

1.7 Limitations of the Study

In general, the confidentiality and sensitivity of the topic under study caused a lot of hindrance in the manner in which the respondents completed the questionnaire. Some respondents treated the whole exercise with suspicion. This was countered by making several visits to respondents' places of work to maintain trust.

Another limitation arose from the fact that attitudes are a multifaceted concept that keeps on changing from time to time. This was countered by validating the instrument.

1.8 Delimitations of the Study

The study was carried out in Voi District which was selected because the researcher had already created a rapport with students and teachers, also in order to make the study manageable to gather adequate information and data. The study covered curriculum implementation policy manual and the respondents were teachers and students.

1.9 Basic Assumptions of the Study

This study was based on the following assumptions:

- a) That all respondents would cooperate and give valid and reliable answers to the queries put forth.
- b) That all teachers in Coast Institute of Technology were familiar with the Curriculum implementation policy manual on quality management system.

1.10 Definition of Significant Terms

Academic Performance or (Academic) Achievement refers to the outcome of education or the extent to which a student, teacher or institution has achieved their educational goals.

A **student** refers to a learner or someone who attends an educational institution.

Influence refers to the capacity to have effect on the character, development or behavior of someone, something or even the effect itself.

Quality in quality management, the formal definition of quality (ISO 9001:2008) is the degree to which a set of inherent characteristics fulfils requirements.

Technical, Vocational and Education Training, According to Laugo & Rupert (2005 pg 2) defines, Technical, Vocational and Education Training as education which is mainly to lead participants to acquire the practical skills, know how and understanding, and necessary for employment in a particular occupation, trade or group of occupations.

1.11 Organization of the Study

This study is organized into five chapters: Chapter one deals with the background of the study, the statement of the problem, purpose of the study, the study objectives, research questions, significance of the study, limitations and delimitations of the study, assumptions of the study and finally definition of significant terms as used in the study.

Chapter two gives relevant literature on ISO 9001: 2008 and quality management systems. It is divided into the following parts; introduction, process based quality management system, impact of quality management systems in organizations, quality in teaching and learning, summary of literature review, theoretical framework and conceptual framework.

Chapter three describes the research methodology used in the study. It comprises of; introduction, research design, target population, sample size and sampling procedures, research instruments, validity and reliability of the instruments, data collection procedures and data analysis techniques.

Chapter four presents data analysis, research findings and discussions of findings collected from the study.

Lastly, chapter five contains the summary of the findings, conclusion, recommendations and suggestions for further research to the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with the related literature review mainly concerning ISO certification and quality management system in general drawing examples from various places in the world. The main focus is on QMS policies on curriculum implementation and other Management review records. This section also presents theoretical and conceptual framework as well as a summary of the literature review.

Table 2 shows the worldwide total growth in ISO 9001: 2000/2008 certification as found in the ISO Survey 2009

Table 2: Worldwide total growth in ISO 9001: 2000/2008

Dec 2003	Dec 2004	Dec 2005	Dec 2006	Dec 2007	Dec 2008	Dec 2009
497,919	660,132	773,867	896,929	951,486	982,832	1,064,785

2.2 The ISO 9001 Basic Principles

The ISO 9001 mainly focuses on the eight basic principles that guide its implementation:

Customer focused organization

Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations.

Leadership

Leaders establish unity of purpose and direction. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives

Involvement of people

People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.

Process approach

A desired result is achieved more efficiently when activities and related resources are managed as a process

System approach to Management

Systems are constructed by connecting interrelated processes together to deliver the system objective which in the case of quality management systems is the satisfaction of the interested parties.

Continual improvement

Continual improvement of the organization's overall performance should be a permanent objective of the organization.

Factual approach to decision

Making Effective decisions are based on the analysis of data and information.

Mutually beneficial suppliers

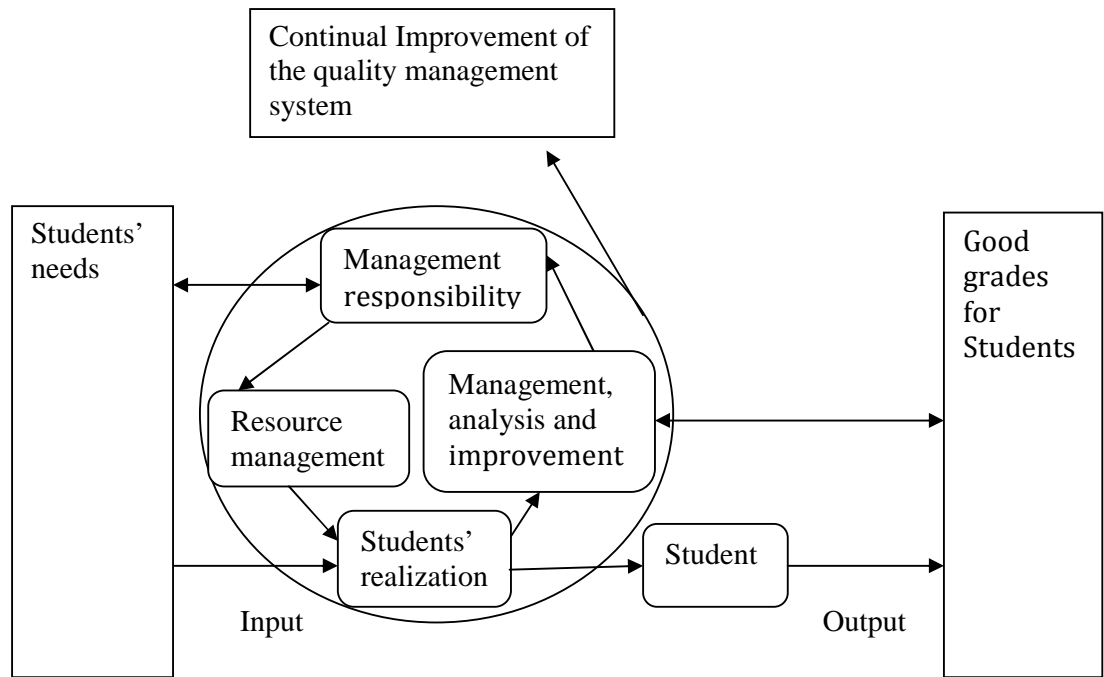
Relationships An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

2.3 Process Based Quality Management System

The ISO 9000 standards give organizations an opportunity to increase value to their activities and to improve their performance continually, by focusing on their major processes. The standards place great emphasis on making quality management systems closer to the processes of organizations and on continual improvement. As a result, they direct users to the achievement of results, including the satisfaction of customers and other interested parties.

ISO 9001:2008 aims at guaranteeing the effectiveness (but not necessarily the efficiency) of the organization. The guiding quality management principles are intended to assist an organization in continual improvement, which should lead to efficiencies throughout the organization.

For quality improvement to be continuous, senior management should encourage and motivate staff to implement their recommendations. To achieve quality objectives, top management should establish a quality system and involve those who will be involved in implementation so that they own the process. Example of such continual process is shown in figure 1.



Key

—————> Value adding activity

—————<> Information flow

2.4 Impact of Quality Management Systems in Organizations

ISO management systems have gained a chronic importance developed in the field of managing quality since two decades. ISO 9001 Certification has a major impact on worldwide quality practices, (Roger G.Schroeder, 2008). There are certain elements crucial for institution's excellence, which are not explicit mentioned in the standard 9001. The assumptions about organization's Vision, Mission and Competencies must fit reality, otherwise the organization's QMS may exist in the form of a certificate only, (Juran, 1996).

Chief Executive Officers shall take due care before ISO certification, as what do they expect from ISO 9001 certification, in terms of value addition.

The very purpose of going for ISO could be to streamline the system for sustaining advantage. This sustaining advantage is achieved by organizing its various activities into tight systems, which support and reinforce each other (Markides, 2000). The wide acceptance of the ISO 9001 standard by more than a Million organizations in more than 160 countries (ISO Survey, 2009) came from the generic requirements of the standard and its applicability to all organizations, regardless of type, size and product/ service provided (ISO 9001). ISO 9001 standard was initially adopted by firms in Europe and in countries with close relationship with UK such as Australia and New Zealand, (Pan, 2003). Nowadays became the most popular standard implemented by manufacturing as well as service organizations. The drivers for ISO 9001 certification vary from one company to another and from one country to another, though the basic themes supporting 9001 were the customer satisfaction and continual improvements.

Naser, (2004) studied the effect of ISO 9001 certification on the performance of 162 public listed companies in Malaysia and they found an impact between ISO 9000 registration and performance of companies in Malaysia. Their study revealed that certified Malaysian companies outperformed the non-certified ones during the period of their study. While in Canada, Bhuiyan and Alam (2004) studied implementing ISO 9001:2000 and they concluded that there were some difficulties faced by Canadian companies in implementing the new

standard and these difficulties are varying based on different companies characteristics like size, and years of operation.

Magd and Curry (2003) studied ISO 9001 in Egypt and they concluded that the most common reasons for seeking certification in Egypt were to improve the efficiency of the quality system and pressures from competitors/foreign partners. Also identifying the impact of the certification, it can be concluded that the overall ISO's effects on managerial inefficiency are negative indicating that the adoption of ISO reduces managerial inefficiency.

The above are the classic examples of how the ISO 9001 standard, has been applicable, in many organizations. However, all these cases look at ISO standards as to bring efficiency of an organization and competitiveness with other organizations. This is the starting point to probe further on ISO 9001: 2008 standards and students' academic performance in the Coast Institute of Technology.

2.5 Quality in Teaching and Learning

Quality teaching and learning can best be described by performance outcomes in the classroom environment. Performance is observed by the direct outcome of learning and it is the main indicator that learning has occurred, (Karimi 2008). He further describes learning as a “persisting change in performance or performance potential that results from experience and interaction with the world”. Therefore, for learning to be observed, there must be demonstration through the performance on related tasks.

The ISO 9001: 2008 concept of quality, where quality is evaluated in terms of customer satisfaction has been adopted by many learning institutions with a general feeling that ISO 9001: 2008 is more applicable to institutions offering service-orientated training, as opposed to subject-orientated teaching. Cullen, Joyce, Hassall and Broadbent (2003) and Kaplan and Norton (1996) maintain that “The progression from the monitoring of service providers like schools and colleges to manage quality in education, requires the adoption of QMS.” Woods (2002, pg 2) says “Quality is what is good for the school and its students.” In the UK, as in many other countries using QMS, there is a national drive for improved teaching and learning. In developing countries there is also a renewed focus on learning outcomes to prepare graduates for employment and higher education. A Kenyan version of QMS can easily be compared to the UK where the quality assurances practices are implemented holistically from the ministry of Education to the classroom teaching and learning. In Coast Institute of Technology, ISO 9001: 2008 was implemented to give strategic operations in relation to customer relations.

2.6 Summary of Literature Review

This chapter has discussed the process of quality management system, the impact of quality management system in organizations and quality in teaching and learning. Magd and Curry (2003) analyzed twelve motivations for ISO 9001 certification. A summary of the main reasons of why organizations adopt ISO 9001 can be framed as follows:

- Pressure from existing customers.

- Pressure from parent organization.
- Promotional benefit.
- Competitors Registration.
- To improve internal efficiency.
- To maintain/increase market share.
- To help improve customer service.

From above it is clear that most researchers were interested in investigating the effect of ISO standards procedures on customer satisfaction and continuous improvement. This study examined customer satisfaction in terms of academic performance and continuous improvement of curriculum implementation. The study further looked at the relationship between teachers and students level of awareness of ISO 9001 standards and the academic performance at CIT as well as the possible barriers to the implementation of these standards. The knowledge generated is useful in planning implementation of CIT policies on curriculum which is the reference point in the endeavour to achieve quality performance in academics for students.

2.7 Theoretical Framework

One theory applied to this study is the Systems theory. This is an interdisciplinary study of systems in science and sociology. It offers frameworks to describe and analyze groups of objects. It was proposed by Biologist Ludwig Von Bertalanffy in 1928 (Cole, 1997). It emphasizes the need to customer satisfaction and the totality of the organization to value

every part or every section within it in order to achieve its objectives. Just like the System theory emphasizes on the importance of every part of the any system, likewise, organizations are made up of many administrative and management sections, functions, products, services and groups as well as individuals. This is well in line with the ISO 9001:2008 which was adopted by CIT, which emphasize the commitment to attain the required international standard in quality service delivery. The study examined how the adoption of this requirement has so far been applied and improved students' academics performance.

The Kaizen Philosophy of continuous improvement also guided the study. Kaizen is a Japanese philosophy of continuous improvement of all employees in an organization so that they perform their tasks a little better each day. It is a never ending journey centered on the concept of starting a new each day with the principle that methods can always be improved (Oakland, 2000). The theory was propounded by a Japanese scholar Masaaki Imai who defined it as on going improvement involving everyone from top management, managers and workers. The Kaizen strategy recognizes that management must seek to satisfy the customer and his needs if it is to survive and grow in business. It is important to note that kaizen is to be performed at all levels from top management to lower level employees (Chary, 2004). This philosophy is therefore relevant to this research since it provides an insight of the need to continuously improve the way CIT carry out their implementation of curriculum in line with ISO 9001: 2008 standards and the extent to which it would improve on the students' academic performance.

2.8 Conceptual Framework

The study contains three variables as it appears in figure two, which the researcher has attempted to bring to light their effects on the quality of academic performance in Coast Institute of Technology, which is the dependent variable. This study acknowledges that when ISO 9001: 2008 standards documented on curriculum implementation policy manual are followed by teachers they may cause a positive change to student academic performance.

The study also shows that moderating factors like government policies on education will affect the outcome of the students' performance. Abrupt changes in opening and closing dates of institutions, election period and minimum entry requirements for students are just a few factors controlled by the government through the ministry of education. Such factors are normally not included in the termly program of activities might result to non-conformity which is an indication of poor performance in line with ISO implementation.

Independent Variables

Dependent Variables

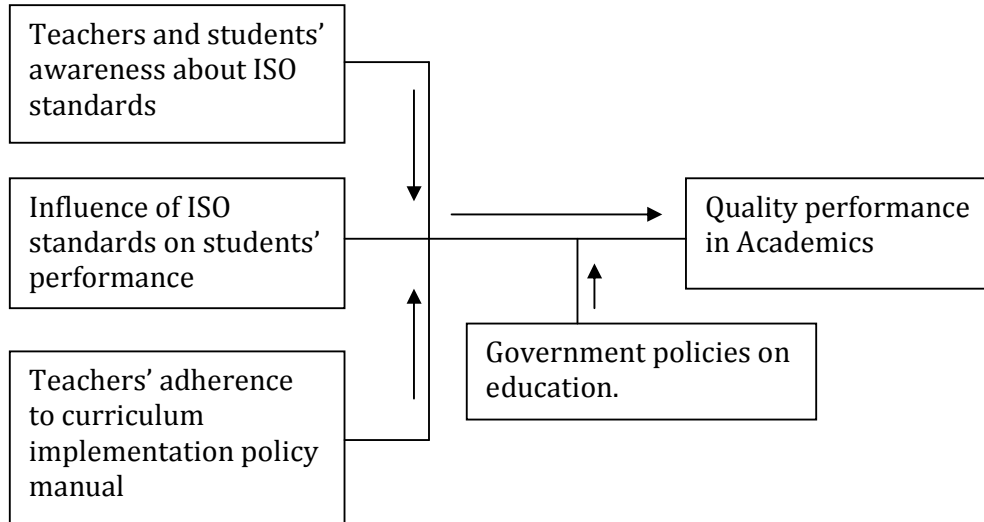


Figure 2: Conceptual model showing interrelationship between independent and dependent variables.

Source; Author (2013)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology used for data collection and analysis. The chapter also covers the area of study, target population, sample size, sampling procedures, data collection instruments, methods of data analysis and presentation.

3.2 Research Design

Research design is a general plan of how one goes about answering the research questions, (Saunders, 2007). The researcher adopted correlational design to establish relationship among the dependant and independent variables. A correlation research is a design conducted when researcher want to explore the extent to which two or more quantifiable variables co-vary, that is, where changes in one variable are reflected in changes in the other (Creswell, 2008). Such degree of relationship is normally expressed as a coefficient of correlation.

The researcher tries to establish that awareness of ISO 9001: 2008 standards, implementation of ISO 9001: 2008 standards and the extent to which teachers adhere to the curriculum implementation procedure manual as the main contributors to academic performance in Coast Institute of Technology. The

researcher finds out whether variations in these independent variables significantly or insignificantly contribute to change in students' performance.

3.3 Target Population

The study was based at Coast Institute of Technology which has a student population of 601, 72 teachers and 10 administrators.

The target population was divided proportionally into the 10 divisions/department of Coast Institute of Technology. The departments included were; administration/management, electrical, mechanical, applied science, Tourism, Institutional management, Business, building, entrepreneur and information technology. The same department may comprise students of any level of study (First year, second year, and third year).

3.4 Sample Size and Sampling Procedures

The sampling frame for any probability sample is a complete list of all the cases in the population from which a sample is drawn (Saunders, 2007). Mugenda and Mugenda (2003, pg 384), formula for determining sample size was used:

$$n = (Z^2pq)/d^2$$

Where; n=desired sample size for a target population greater than 10,000,

Z=Standard normal deviation (1.96) corresponding to 95% confidence level,

P=Expected prevalence of proportion,

q=1-p and d=level of statistical significance set.

$$n = (1.96^2 \times 0.1 \times 0.9)/0.05^2 = 138$$

For a target population of less than 10,000 then sample size was found using the formula:

$$n_f = n/(1 + n/N)$$

Where; n_f =desired sample size for target population less than 10,000

N=the estimate of the population size.

Therefore;

$$\text{Sample size for students} = 138 / (1 + 138/601) = 112$$

$$\text{Sample size for teachers} = 138 / (1 + 138/72) = 47$$

$$\text{Sample size for administrators} = 138 / (1 + 138/10) = 9$$

The study adopted stratified random sampling. This is because the study population is not homogeneous as it comprises of teachers in different disciplines and working in different departments/sections. In addition, the students undertake different courses. The goal of this sampling technique was to ensure that teachers and students in different departments and sections were adequately represented in the sample (Mugenda and Mugenda, 2003).

The total number of departments/sections in CIT is 10. A further random sample of staff and students from these departments was done using the list of students and teachers before reaching the total number of respondents. For instance, in each department the researcher took a random sample of the teachers and students in that department.

3.5 Research Instruments

The researcher used both primary and secondary data. Primary data collection instruments were in form of questionnaires and interview. Questionnaires were used because all the respondents in study were literate and capable of answering the items adequately. The questionnaires consisted of structured and unstructured questions. Unstructured questions gave the respondents the freedom of response (Mugenda, 2003). The questionnaires were administered to school administrators, teachers and students. All the questionnaires for the three categories of respondents had four (4) parts aimed at eliciting information as par that category. Part “A” was on personal data of the respondent and general data. Part “B” had information about the awareness level of ISO 9001: 2008 standards. Part “C” elicited information on influence of ISO standards on academic performance in Coast Institute of Technology. Part “D” sought information on the extent to which ISO 9001: 2008 standards on curriculum implementation procedures were followed by teachers at CIT.

Twenty interviews were conducted to teachers representing the various departments in Coast Institute of Technology. The information sought included; roles played by teachers, value added in academic performance after

ISO standards were implemented and the way forwards for CIT after the implementation of ISO standards.

In addition, the researcher used secondary data sources and literature such as the, Kenya National Examination Council results for the years 2010, 2011 and 2013. Researcher further used the curriculum implementation procedure manual as documented in the institution's quality management system.

3.5.1 Validity of the Instruments

The validity of a research is the extent to which data collection method or methods accurately measure what they were intended to measure, (Saunders, 2007). To enhance validity of the instrument, pilot study was conducted in order to get appraisal of the questionnaire. A sample of five teachers one administrator and ten students were randomly selected from one department and required to fill the questionnaire while the researcher is waiting. The respondents' were not included in the main study. The questions were made in such a way that the countercheck each other. Answers to some of the questions were used to verify and clarify other questions and answers. Necessary rephrasing of questions, re-sequencing and adding questions where applicable was done (Kothari, 2004). Finally the instrument was validated by my seniors in the disciplines of research and statistics. Bosire and Etyang (2003) similarly conducted an expert validation in their research work.

3.5.2 Reliability of the Instrument

According to Mugenda and Mugenda (2003, pg 95), reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. The research instrument was pre-tested to some selected subjects with the outcome being used to improve it. The researcher further used split half method as recommended by Mugenda and Mugenda (2003, pg 98) for measuring reliability of a test. This involved splitting the instruments into two: one half of even numbered items and the other half of odd numbered items. The scores of all the odd and even numbered items for each of the respondents in the study were computed separately. Pearson product moment correlation coefficient was used to correlate the scores from the two groups of items. The correlation coefficient obtained represented reliability of only half of the instrument. In order to obtain the reliability of the entire instrument, Spearman Brown Prophecy formula was used.

3.6 Data Collection Procedures

A research permit was obtained from National Council of Science and Technology (NCST) at Utalii house. The District Education officer was requested to give an introduction letter to the respondents. The researcher visited Coast Institute of Technology (CIT), to brief staff and students on the purpose and objectives of the study.

The researcher then administered questions to the randomly selected respondents regardless of seniority or year of study of the students and

teachers then to selected departmental ISO management representatives. Management review records were used and once this was done, data was collected for analysis.

3.7 Data Analysis Techniques

Data collected was checked for any errors to be editing before actual data analysis. Through editing of the raw data, errors and omissions detected were corrected. This was aimed at increasing the level of accuracy and make analysis of the data easier.

Qualitative data was then analyzed and presented in a way that is simple and easy to understand. Statistical Package for Social Science software was used in processing data from the questions, (Pallant, 2011). The processed data was used to generate frequency, percentage tables and graphs for comparison purposes. The information was then presented in form of pie charts and tables. The presentation was in a narrative form describing the research's objectives and then presented in textual form. Descriptive analysis enabled the researcher to summarized and organize data in an effective and meaningful way (Nachmias, 2004).

A multiple regression was developed and employed to analyze the data at a level of statistical significance test of 0.01 two tailed.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

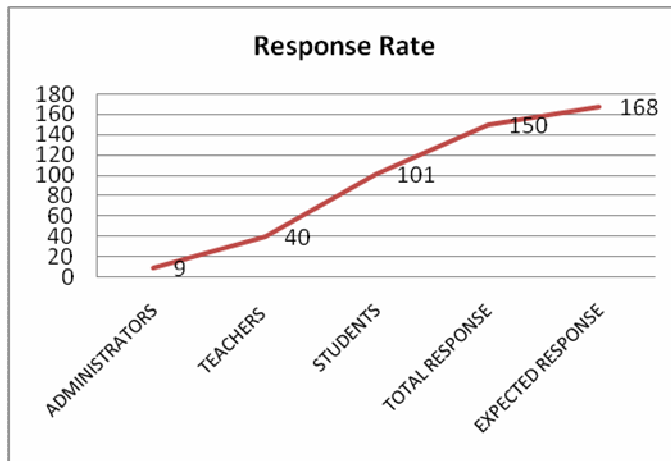
This chapter deals with the analysis of data derived from responses to the research instruments using Statistical Package for Social Sciences (SPSS) and Microsoft Excel tools such as the mean, standard deviation and Regression. The study employed the use of questionnaires, interviews and desk top study to obtain data. Three weeks were spent collecting data in each of the selected divisions to observe the way the respondents had embraced the use of ISO 9001:2008 procedures and requirements at the Coast Institute of Technology. The researcher used both results from questionnaires and interview to do analysis of the respondents' data.

4.2 The questionnaire Return Rate

The study involved nine (9) administrators, forty seven (47) teachers and one hundred twelve (112) students in Coast Institute of Technology out of which nine (9) questionnaires from administrators, forty (40) questionnaires from teachers and one hundred and one (101) questionnaires from students were filled and collected as shown in **figure 3**. These respondents were stratified into 9 departments found in Coast Institute of Technology. The departments included were; administration/management, electrical, mechanical, applied science, Tourism, Institutional management, Business, building, entrepreneur and information technology. This ensured a fair representation of teachers and

students in the sample. This translated to 100 percent for administrators, 85 percent for teachers and 90 percent for students. In total the response rate was 150 out of 168 representing a response rate of 89 percent which was considered sufficient.

Figure 3: Respondents Response Rate



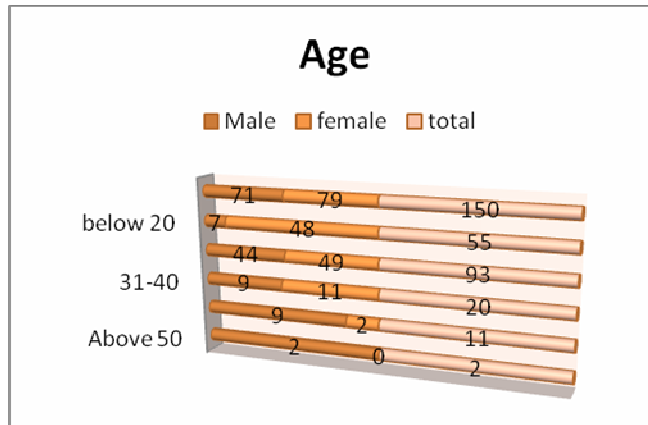
Source: Respondents (2013).

4.3 Demographic Information of Respondents

The researcher sought to establish the demographics of respondents in terms of age, gender, level of education, year of study, and experience. This being a sample study, the views of all respondents were therefore, merged and analyzed.

4.3.1 Respondents' Age Profile

Figure 4: Respondents' Age

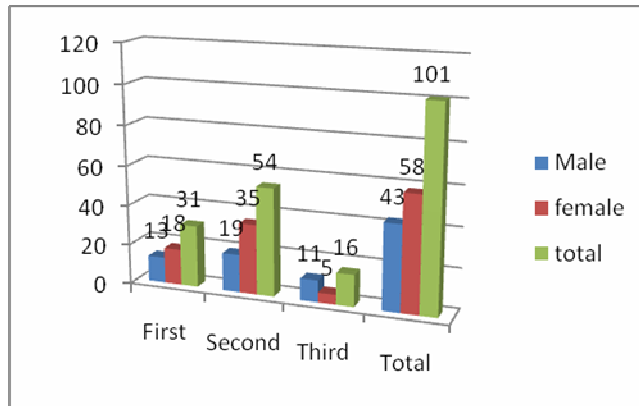


Source: Respondents (2010).

Figure 4 shows the age of the respondents. Out of the 150 respondents, 36.7 percent were aged below 20 years, 62.0 percent were aged between 21-30 years, 13.3 percent were aged between 31-40 years, 7.3 percent were aged between 41-50 years and only 1.3 percent were above 50 years. This gave an indication that more than 98.7 percent of the respondents were below 30 years old. This was due to the fact that most respondents were students normally below 25 years who are mature to give reliable information on the study.

4.3.2 Students Year of Study

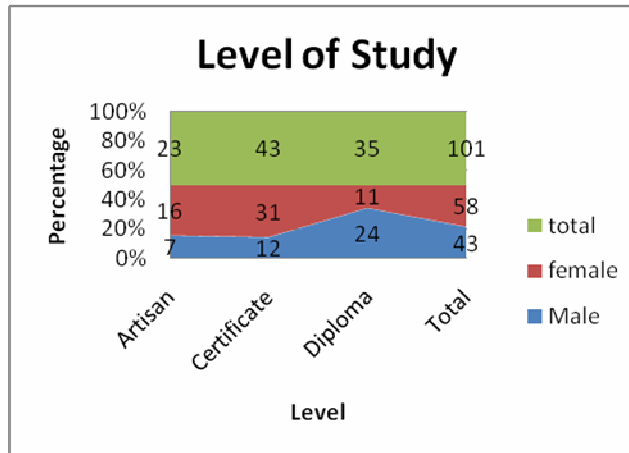
Figure 5: Year of Study



As illustrated in **figure 5**, a large number of the respondents, 54 were in second year followed by first year, 31 and lastly third year at 16. The high number of second year was attributed to repeaters and those students joining from attachment in all the three categories; artisan, certificate and diploma. The lowest was in third year because it is only composed of diploma students waiting for their final year examination. The large number of continuing students was considered well suited to provide relevant information on influence of ISO standards on academic performance in CIT.

4.3.3 Students Level of Study

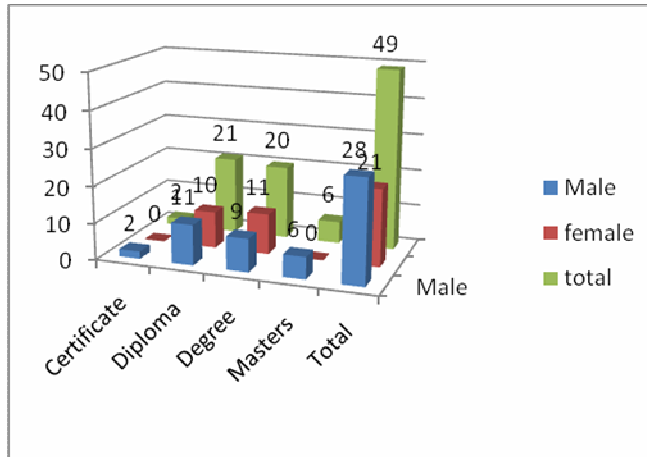
Figure: 6: Students Level of Study



As illustrated in **figure 6**, a large number of the respondents, 43 (42%) were certificate courses followed by diploma, 35 (35%) and lastly artisan at 23 (23%). Most courses in Coast Institute of Technology were designed for certificate level and this gave the highest number of respondents while at artisan level, some departments such as business do not offer artisan courses making the number of respondents in artisan level lowest. The high number of students taking certificate and diploma courses was considered well suited to provide good and accurate information because of their entry behavior.

4.3.4 Teachers Educational Qualifications

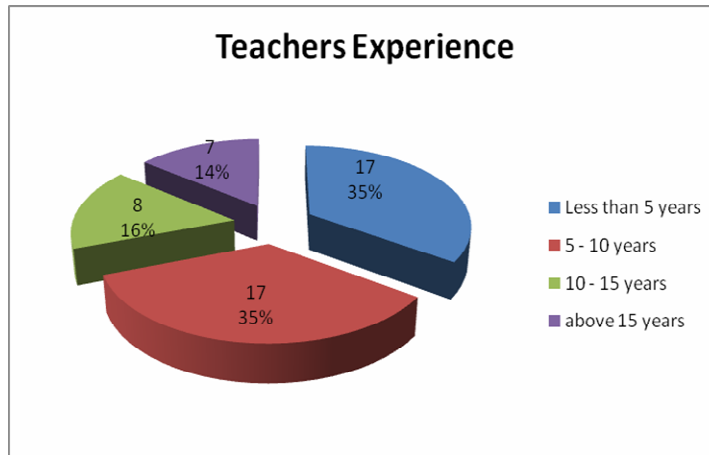
Figure 7: Teachers Education Level



The demographic information of teachers' highest professional qualification was also received as shown in **figure 7**. This established the quality of teachers in the institution. Results from the findings shows that out of the 49 respondents 21 teachers had diplomas, 20 had degrees, 2 had certificate and 6 had masters. This implies that many institutions prefer employing more middle level employees who are diploma holders. Reason being, they are capable of handling sophisticated roles while at the same time being paid a lower remuneration compared to those in the same rank who have degrees and postgraduate qualifications. Hence the large number of respondents being diploma holders. For this research, diploma level of education was considered good qualification to provide the required information on the study, since most students were taking diploma certificates.

4.3.5 Teachers Teaching Experience

Figure 8: Teachers Teaching Experience



Teachers were asked to indicate their teaching experience. Their response was presented in a pie chart as shown in **figure 8**. The results shows that out of the 49 respondents, 70 percent had a teaching experience of less than 10 years while 30 percent had an experience of more than 10 years. The low percentage of teachers with teaching experience more than 10 years was due to most teachers quite teaching in search of greener pastures. However, in this study 30 percent of experienced work force was enough to induct the less experienced work force in curriculum implementation especially on areas such as monitoring of standards, evaluation, and teaching/learning process to attain good academic achievements which this study investigates.

4.4 The relationship between level of awareness on ISO standards and academic performance.

Research question one: What is the level of awareness of students and teachers of Coast Institute of Technology on ISO 9001:2008 standards?

Teachers and students were asked questions on the objectives of ISO standards and whether CIT has been certified, with the aim of establishing the mandate of ISO 9001 in CIT.

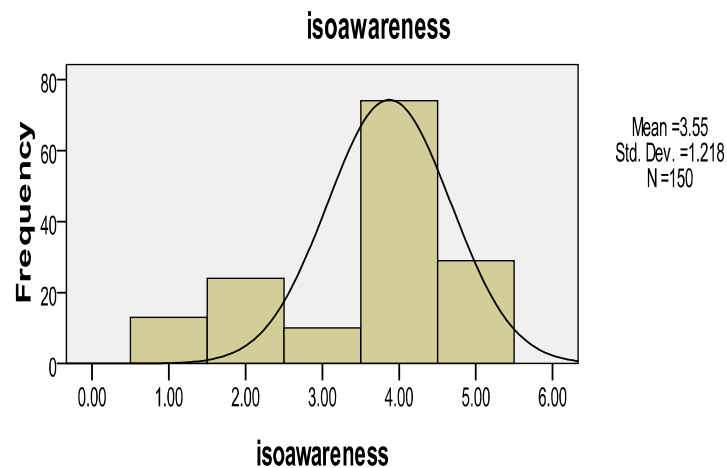
In descriptive analysis, four techniques that were used to do the analysis were; mean, frequency, graphs and standard deviation. Mean is used to measure the central tendency of the data by measuring the location of the distribution of the data. The standard deviation is used to measure the dispersion of the data; it measures how the variation of data is and how the data was being spread in the normal distribution.

The study found that 69 percent of teachers and students were aware of ISO 9001:2008 standards as evident in **Appendix 6**. This was evident from the answers they gave as they were clear and simple to understand. However, there were those who responded negatively as to whether they knew the procedures and requirements and even the role of ISO-9001:2008. The negative response to awareness of ISO-9001:2008 standards represented a 31 percent which was attributed to lack of continuous awareness training and motivation.

The study further established that 100 (representing 67 percent) of the respondents who were aware of ISO standards also felt that the academic performance of Coast Institute of Technology was good as evident in **Appendix 7**.

Graph 1, shows a mean of 3.55 and Standard deviation of 1.218 for ISO awareness. It means that in the normal distribution, ISO awareness has a variation or spread of 1.218 from the mean. This suggests that majority of the respondents were in agreement that; enough awareness was given on ISO standards.

Graph 1: Students and teachers awareness level on ISO standards



From graph 1, the respondents' response on ISO awareness was skewed towards 4.00 (representing "agree" on the likert scale) an indication that teachers and students were given enough awareness on ISO standards.

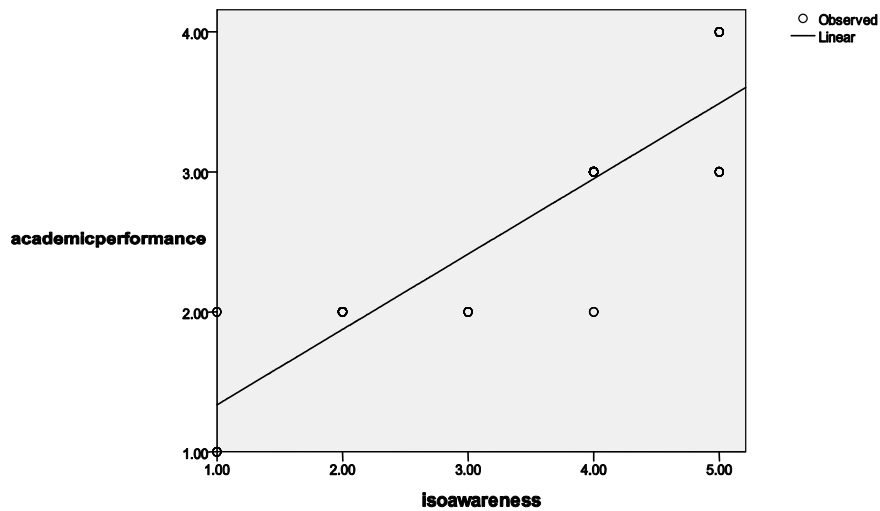
4.4.1 Regression Analysis of the Variable

Table 3: R square value for ISO awareness and academic performance

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.810	631.908	1	148	.000	.798	.538

The linear regression table shown in **table 3** reveals that, there is a strong positive relationship between ISO awareness and academic performance with an R square value of 0.810, which is way above 0.7. Therefore, it implies that when teacher and students are aware of ISO standards they will be able to implement such standards freely thus improved academic performance. This direct linear relationship is further illustrated by scatter **graph 2** shows.

Graph 2: Relationship between ISO awareness and academic performance



4.5 The relationship between influence of ISO 9001: 2008 standards and academic performance.

Research question three: In what ways have ISO 9001:2008 standards influenced students' academic performance in Coast Institute of Technology?

Teachers and students were asked questions on the influence of ISO 9001: 2008 standards on academic performance in CIT.

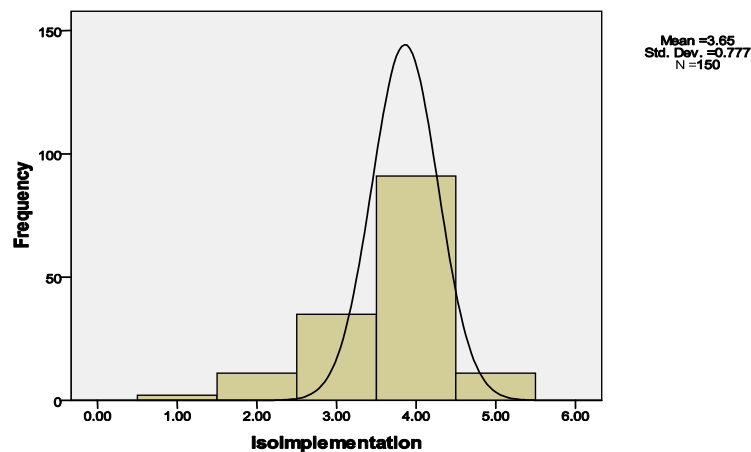
The study found that 68 percent of teachers and students agreed that implementation of ISO 9001:2008 standards affects academic performance positively as evident in **Appendix 10**. 9 percent of respondents gave a

negative response while 23 percent were undecided. The large number of undecided respondents was attributed to first year students and newly recruited teachers who needed more time to familiarize themselves with the ISO standards.

The study also established that 67 percent of the respondents felt that the academic performance of Coast Institute of Technology was good after ISO standards were implementation as evident in **Appendix 11**.

Graph 3, shows a mean of 3.65 and a standard deviation of 0.777 for the influence of ISO standards on academic performance, implying that majority of teachers and students in Coast Institute of Technology are of the opinion that implementation of ISO standards have an effect on the academic performance.

Graph 3: Teachers and students response on the influence of ISO standards



From **graph 3**, the respondents' response was skewed towards 4.00 (representing "agree" on the likert scale) an indication that majority of the respondents agreed that ISO standards have effects on the academic performance.

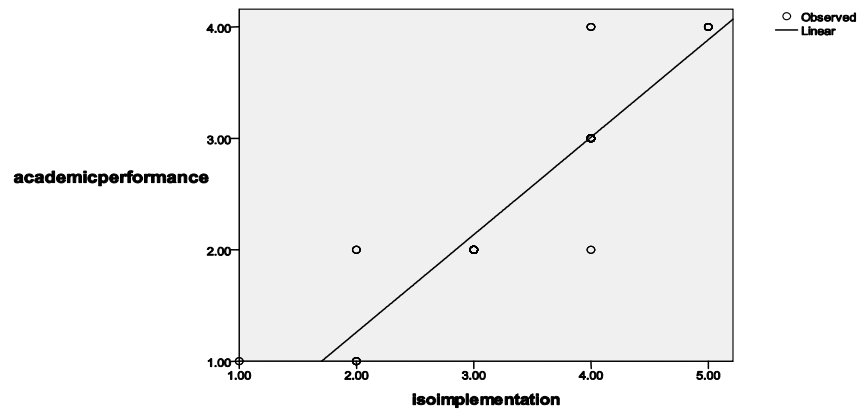
4.5.1 Regression Analysis of the Variable

Table 4: R square value for Curriculum implementation and academic performance

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.871	1002.732	1	148	.000	-.491	.875

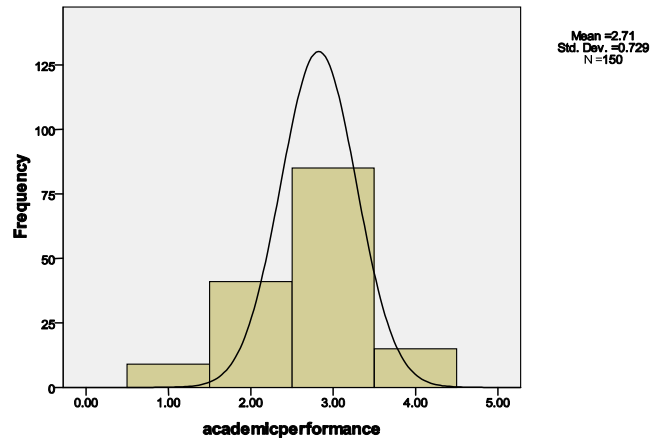
The linear regression table shown in **table 4** reveals that, there is a strong positive relationship between ISO standards implementation and academic performance with an R square value of 0.871 which is above 0.7. Therefore, it implies that when ISO standards are implemented in an institution they improved academic performance. This direct relationship is indicated in the scatter **graph 4**.

Graph 4: Relationship between ISO Implementation and academic performance



Concerning whether the implementation of ISO standards has improved the academic performance in Coast Institute of Technology, 67 percent of respondents agreed to the statement, as evident in **Appendix 12**. To further support this statement **Table 1** has clearly shown that CIT has been continuously improving in KNEC examination for the last three years. Since ISO standards were implemented in CIT, the syllabuses were covered in the stipulated time frame an indication of academic achievements. The heads of departments constantly monitored standards and the entire teaching learning process.

Graph 5: Teachers and students response on the academic performance



In **graph 5**, the respondents' response was skewed towards 3.00 (representing “good” on the likert scale) indicating that most respondents felt that ISO standards have contributed to good academic performance.

4.6 The relationship between ISO 9001: 2008 standards on curriculum implementation procedures and the academic performance.

Research question two: To what extent are the ISO 9001:2008 standards on curriculum implementation procedures followed by CIT teachers?

Teachers were asked questions on curriculum implementation procedures in line with ISO standards as documented in academic policy.

In descriptive analysis, four techniques that were used to do the analysis were; mean, frequency, histogram and standard deviation.

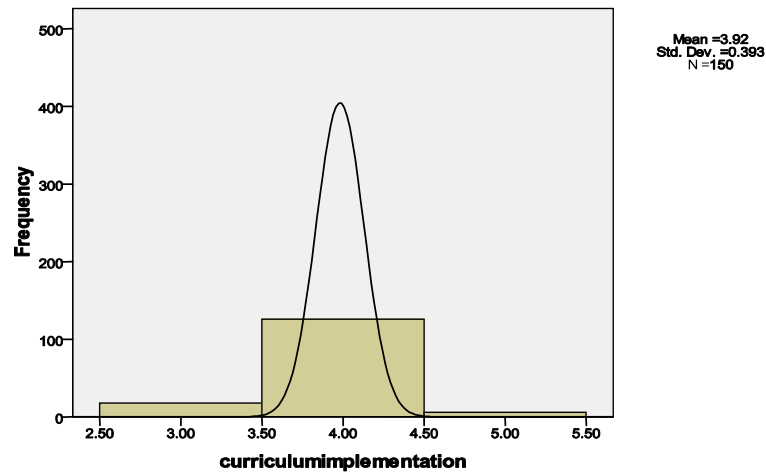
The study found that 88 percent of teachers followed ISO 9001:2008 standards on curriculum implementation as evident in **Appendix 8**. Only 12 percent gave a negative response on curriculum implementation in line with ISO 9001:2008 standard procedures which according to this study was very minimal.

The study further established that 100 (representing 67 percent) of the respondents who adhered to ISO standards on curriculum implementation also felt that the academic performance of Coast Institute of Technology was good as evident in **Appendix 9**.

Graph 6, indicates a mean of 3.92 and a spread of 0.932 for curriculum implementation, meaning that majority of teachers in Coast Institute of Technology adhered to procedures on curriculum implementation in line with ISO standards. The implication is that curriculum implementation has been embraced by teachers.

However, the study established that some teachers were either undecided or disagreed. This was very minimal and it was attributed to lack of continuous awareness training and motivation, to keep the standard operating procedures and requirements at CIT as high as possible.

Graph 6: Teachers adherence to procedure on curriculum implementation in ISO standards



In **graph 6**, the respondents' response on curriculum implementation was skewed towards 4.00 (representing "agree" on the likert scale) an indication that teachers agreed that they follow procedures on curriculum implementation of ISO standards. It was noted that from the time ISO standards were implemented, teachers evaluated and monitored the curriculum. It is due to this that most students were quick to point out that standards are followed by teachers thereby leading to good academic achievements.

4.6.1 Regression Analysis of the Variable

Table 5: R square value for Curriculum implementation and academic performance

Equation	Model Summary					Parameter Estimates	
	R Square	F	df1	df2	Sig.	Constant	b1
Linear	.477	134.932	1	148	.000	-2.309	1.280

The linear regression table shown in **table 5** reveals that, there is a moderate positive relationship between curriculum implementation and academic performance with an R square value of 0.477, which lies between 0.3 and 0.69. Therefore, it implies that when teacher adhere to procedure on curriculum implementation in ISO standards results to improved academic performance. However, the low R square value is an indication that other than curriculum implementation other factors which have not been touched in this study also affects the academic performance in Coast institute of Technology. This direct linear relationship that exists between Curriculum implementation and academic performance is illustrated by the scatter **graph 7** shows.

Graph 7: Relationship between Curriculum Implementation and academic performance

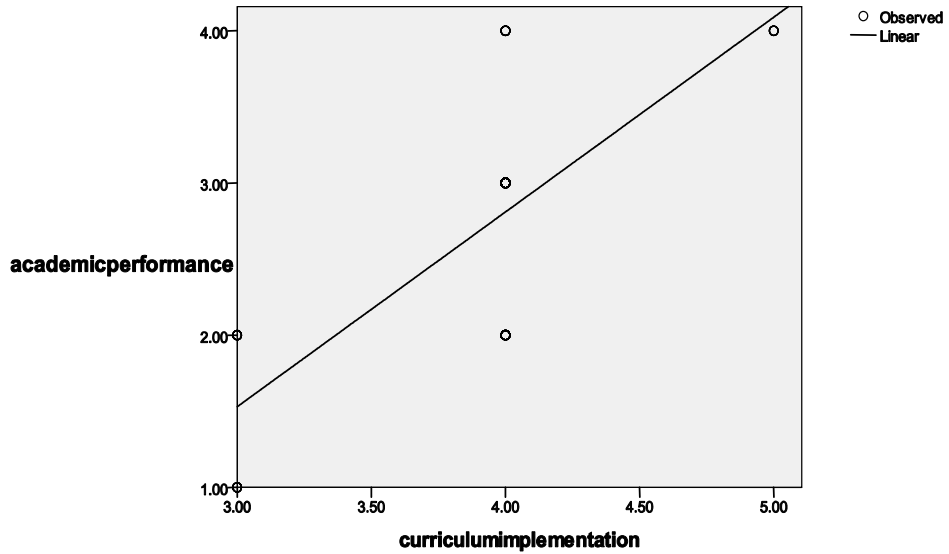


Table 6: Summary of Regression analysis for all Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.941 ^a	.885	.882	.25007

a- Predictors: (Constant), curriculum implementation, ISO awareness, ISO implementation

The summary in **table 6** reveals that, there is a strong positive relationship between the three variables in play with an R square value of 0.885 which is high above 0.7. This implies that when teachers and students are aware of ISO

standards, teachers implement ISO standards and adhere to the curriculum implementation policy as documented in the institution's quality management systems of ISO standards this will considerably improve and result to good academic performance in Coast Institute of Technology.

The analysis given above represents the explanatory variables used in the regression analysis. The relationship is given by the following equation:

$$\mathbf{R} = \beta_0 \pm \beta_1 (\mathbf{P}_1) \pm \beta_2 (\mathbf{P}_2) \pm \beta_3 (\mathbf{P}_3) \pm \mathbf{e}$$

Where; P_1 is level of awareness, P_2 is ISO implementation, P_3 is Curriculum implementation, R is academic performance, e is the error term and $\beta_0, \beta_1, \beta_3$ are the coefficients of regression. From this the multiple regression equation will be represented as: $\mathbf{R} = 0.9 \mathbf{P}_1 + 0.933\mathbf{P}_2 + 0.691\mathbf{P}_3 + 0.25007$

It is important to note that the R square value is less than one (1), reason being that other factors which were not mentioned in this study also play a role in academic performance at CIT. Such factors may include; school environment, learners' entry behavior, and government policies on education among others which this study suggests for further research.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Based on the empirical results presented in chapter four, this final chapter summarizes the findings of the study. It also has recommendations to policy makers, planners, or any other concerned party. The final part of the chapter has suggestions for areas that need further study.

5.2 Summary of Research Study

This study represents a careful and systematic effort to analyze the influence of ISO 9001: 2008 standards on academic performance in Coast Institute of Technology. The study explored the research objectives provided in chapter one. This study thus, added to the body of literature on policies responsible for enhancing good academic performance in Kenyans' institutions.

The study utilized descriptive data analysis and regression analysis. The sample comprised of 9 administrators, 47 teachers and 112 students in Coast Institute of Technology. The study used primary data that was collected using a 5 point likert scale questionnaire that was self administered by researcher and findings presented using pie chart, bar graphs, figures and tables.

Before embarking on the objectives of the study, the study initially tried to find out the respondents bio-data. In relation to this, the study observed the following; Majority of the respondents, 112 were students, 79 respondents were females, 54 respondents were second year students, a larger part of the respondents (21 respondents) were diploma holders and 34 respondents had a teaching experience of less than 10 years.

The first objective was to establish the level of awareness of students and teachers of CIT about ISO 9001: 2008 standards. Generally most teachers and students appeared aware and positive of the ISO 9001:2008 and Coast Institute of Technology administration is commended on the good work. In relation to this objective, question on mandate of ISO standards were deemed important. All the respondents were aware that CIT is ISO 9001: 2008 certified, while majority of the respondents (74 respondents) or 68.6 percent agree that they were aware of ISO standards in CIT. This is represented by the respondents mean rates of 3.55

The second objective was to determine the influence of ISO 9001: 2008 standards on students' academic performance in CIT. Relating to this objective, the ISO role in ensuring quality teaching, Students' academic performance and availability of teaching and learning materials were asked.

It was observed that the respondents agreed all statements were achieved (68 percent of respondents). However, most respondents pointed out that teaching learning materials need to be increased and at the same time teachers should be motivated more. This is represented by the respondents mean rates of 3.65.

Most respondents were quick to say that the institution should in-service teachers on ways to improvise the available materials to cope up with the inadequacy of teaching learning material. These findings show that the implementation of ISO standards may result to good academic performance.

The third objective was to assess out the extent to which ISO 9001: 2008 standards on curriculum implementation policy are followed by teachers in CIT. It has found that majority of the respondents (88 percent) agree that curriculum policies highly supplement the academic performance. This is indicated by the respondents mean score of 3.92. On the other hand, 12 percent of the respondents neither agreed nor disagreed that curriculum policies are easy to implement and follow up.

These findings affirm that the key contributor for academic performance is the curriculum implementation policy as documented in the institution's QMS manual. However, other factors such students' entry behavior, level of teacher motivation among other may come into play which this study did not look into. This may be the reason why 66.7 percent of the respondents agreed that the performance was good. This proved by the KNEC results 2013 which showed that 76 percent of students passed the examination in their respective courses. Nevertheless more regular teacher training on ISO matters as well as Audit Checks are recommended to correct nonconformities that may arise to keep the ISO certification at the institution.

5.3 Conclusion

Quality assurance and standards is fundamental activity and therefore should be part of the school improvement, (Wanjala, 2005). Such standards can be viewed as a bench marking tool to which good practices are encouraged. When instructional standards are put in place throughout education system academic performance will improve.

Implement curriculum in line with ISO standards among other challenges may impede more growth or retard the gains made on academic performance. In this era where learning institutions compete for students globally then one major market drive is good performance.

The study set out to examine the awareness, influence and extent to ISO 9001:2008 implementation in regard to academic performance at Coast Institute of Technology. The study assessed the following objectives: the level of awareness, influence and adherence of curriculum implementation policy among Coast Institute of Technology teachers and students to ISO 9001:2008 implementation. Relying on the theories, the three explanatory variables of academic performance together with the moderating variable of government policies on education were included in the study.

Firstly, the descriptive analysis showed that the majority of respondents agreed the three explanatory variables caused significant contribution to academic performance.

Multiple linear regression analysis showed that the predictors; ISO awareness and ISO implementation were statistically significant variables of academic performance at 99% confidence level. Further, the coefficient of determination R-squared had a high explanatory efficacy of 0.885.

The findings on statistical significance of ISO implementation in organizations were consistent with several other researchers as indicated in the literature review. However, the study went ahead to establish the success of ISO implementation in academic performance at Coast Institute of Technology. Expectedly, ISO awareness, ISO implementation and adherence to curriculum policy were directly related to academic performance.

The results revealed that the importance of ISO standards is well known by teachers and students.

In conclusion, the researcher is of the view that there are several factors that affect academic performance in an institution. Students' entry behavior, financing challenges, low labor productivity, acts of God, are some of the factors. Some definitely have more impact than others. In this research it has been established that the key contributor for academic performance is the curriculum implementation policy as documented in the institution's QMS manual.

5.4 Recommendations

In the light of the findings and conclusions of the study the following recommendations were made:

- a) There is need for administration to create continuous awareness campaign through open barazas and displaying service delivery charter on the objectives of ISO standards to both teachers and students. This will help in improvement of academic performance in line with ISO standards.
- b) Teachers should be taken for in service training or organizing seminars and workshops especially on service delivery and ways of improvising the available materials and resources. For full realization of curriculum implementation in line with ISO standards, the management board of Coast Institute of Technology should provide for expansion of facilities in the institution on time since this has a direct link with students performance in their examination.
- c) The management of Coast Institute of Technology should conduct more internal audits at least two in every term to make the institution run effectively and avoid non-conformities.

5.5 Suggestions for Further Research

The study was only interested with the influence of ISO 9001: 2008 standards on academic performance in Coast Institute of Technology. The findings of this study may be skewed to the level of awareness, influence and adherence of curriculum implementation policy among Coast Institute of Technology teachers and students to ISO 9001:2008 implementation.

There is therefore, a need to replicate this research in different organizations, and with different stakeholders. Preferably, new studies should be conducted in the non service industry to see if the results can be extended to them.

Future studies, could complement the used measurement in this study with others such as focus group discussion for more insight into the phenomenon of academic performance.

The study was limited to investigate only three factors of academic performance keeping other factors constant. Clearly and as revealed in this research there are other factors in play. For future studies therefore, it will be useful to include other variables such as productivity of the workforce, learner entry behavior, and analyze their effect on academic performance.

REFERENCES

- Besterfield, D.H., Besterfield-Michina, C., Besterfield, G.H. and Besterfield-Sacre (2010). *Total Quality Management*. India: Pearson Prentice Hall.
- Bhuiyan, N.; Alam, N. (2004) ISO 9000:2000 Implementation: the North American experience. *International Journal of Quality and Reliability Management*. 53(1): 10–17.
- Bosire J. & Etyang M. (2003). *The effect of education on business skills cognition: The case of indigenous microscale enterprise owners in Kenya*. *JVET*, 55(1), 5-20
- Bray M, Clarke PB and Stephens D (1986). *Education and Society in Africa*. London: Edward Arnold.
- Chary S. N (2004). *Production and Operations Management* (3rd ed). New Delhi: Tata McGraw-Hill
- CIT Strategic Plan 2008-2018: Coast Institute of Technology: Voi.
- CIT Background information: Available at <http://www.cit.ac.ke>: Retrieved on 29th January, 2013.
- Cole. K, (1997). *General System Theory: Foundations, Development and application*. New York: George Braziller.
- Collins, R. (1984). *Statistics versus Words*. *Sociological Theory*, 2:329-362

- Coolahan, J. (2004). *The Journal of Development of Educational Studies and Teacher*.
- Creswell, J. (2008). *Educational Research: Planning, Conducting and evaluating quantitative and qualitative research*, New Jersey: Pearson: Merrill Prentice Hall.
- Cullen, J., Joyce, Hassall, T., and Broadbent, M (2003). *Quality in Higher Education: Quality Assurance in Education*, 11 (1), 5 – 14.
- Goddard D. and Leask M. (1992). *The Search for Quality: Management in Education*. London: Paul Chapman.
- International Standard (2008). *Quality Management System – Requirements (4th Ed)*. 2008-11- 15: Reference number ISO 9001:2008(E).
- Juran J (2009). *Juran's Quality Handbook*. 6th edition. New York. USA: McGraw Hill Publications.
- Kaplan, R. S. and Norton, D. S. (1996). *The Balanced Scorecard*. Boston: Harvard Business School.
- Karimi, F.K. (2008). *Factors Contributing to Academic Performance of Students in a Private University in Kenya*. D.Ed. Thesis, Promoter- Prof. E.O. Mashile. Pretoria, UNISA.
- Kasomo, D. (2006). *Research Methods in Humanities and Education: Research, Statistics, Measurements, Evaluation and Testing*. Eldoret: Zalf Chancery.

- Kenya Bureau of Standards (2007). *Implementation of ISO 9000 Standard Handbook*. KEBS Training and Advisory Services, Nairobi: KEBS.
- Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. New Delhi: Wisma Prakashan.
- Kruger, A. G (2003). *Instructional Leadership: The Impact on the Culture of Teaching and Learning in Schools*. South African Journal of Education, 23: 206 – 211.
- Laugo, J. and Rupert, E (2005). “*Vocationalization of Education Revisited*”. Series: Technical and Vocational Education and Training: Issues, Concerns and Prospects, Vol 1. London: Springer.
- Mugenda, O.M, and Mugenda, A.G. (2003). *Research Methods: Quantitative and Qualitative Approaches (Revised Ed)*. Nairobi: African Centre for Technology Studies (ACTS) Press.
- Magd,M. and Curry,A. (2003). “ISO 900 and TQM Are They Complementary or Contradictory To Each Others?” *The TQM Magazine*, 15(4), pp. 244-256.
- Markides, Constantinos (2000). *Strategic Innovation*. Sloan Management Review 38 (3): 9–23.
- Ministry of Planning and National Development (2008). Kenya Vision 2030:2008. *A Globally Competitive and Prosperous Kenya*. Nairobi: Government Printers.

- Nachmias, C., F., and Nachmias, D. (2004). *Research Methods in Social Sciences*. London: Arnold.
- Naser, G, Ünsalan, D, Tekoğul, N & Stuer-Lauridsen, F. (2004). Effect of ISO 9001 Certification on Performance in Egypt. *Journal Cleaner Production*, Volume 16, Issue 3, February 2008, Pages 350-358
- Oakland John (2000). *Total Quality Management a Text with Cases* (2nd edition). Re-educational and Professional Publishing Limited
- Pallant, J. (2011). *SPSS Survival Manual A Step by Step Guide to Data Analysis using SPSS 4th edition*, Australia: Allen & Unwin Crows Nest.
- Pan, Jeh-Nan (2003) "A Comparative Study on Motivation for and Experience with ISO 9000 and ISO 14000 Certification among Far Eastern Countries", *Industrial Management & Data Systems*, Vol. 103 Iss: 8,
- Ross, KN. (2002). *Cross National Studies of Quality of Education: Planning their design and managing their impact*. Paris: IIEP
- Saunders, M., Lewis, P. and Thohnhill, A. (2007). *Research Methods for Business Students, (4th Ed)*. United Kingdom: Prentice Hall.
- Shroeder, Roger G. (2008). 4th ed *Operations Management*. New York. USA: Mc GrawHill. Print.History of ISO
- Stake, R. E. (1995). *The Art of Case Study Research*. Thousand Oaks, CA: Sage.

Wanjala, G. (2005). *Instructional Supervision*. School of Education:

University of Nairobi.

Woods, M. (2002). *Improving Quality in Education London*: Falmer Press.

APPENDICES

Appendix 1

LETTER OF INTRODUCTION TO RESPONDENTS

University of Nairobi,
Department of Educational
Administration and Planning
P.O. BOX 30197
NAIROBI

Dear Respondent,

RE: RESEARCH IN THE COAST INSTITUTE OF TECHNOLOGY

I am a postgraduate student at the University of Nairobi pursuing Masters of Education in Education Planning. As part of this course I am required to conduct research on, **“Influence ISO 9001: 2008 Standards on Academic Performance in Coast Institute of Technology.”**

I hereby request you to respond to the questionnaire items as honestly as possible. The questionnaire is designed only for academic research purpose. In no way will any individual be identified; you're positive response shall be highly appreciated.

Thank you in advance.

Yours faithfully,

Joseph Muthiani Malechwanzu

Post graduate student

Appendix 2

QUESTIONNAIRE TO STUDENTS

Dear Respondent,

This questionnaire is intended to collect information on Influence of ISO standards and the academic performance in Coast Institute of Technology. The information gathered will be used for research purposes only. Please assist by writing or by ticking (√) in the appropriate line or box, respectively.

SECTION A: Respondent Identity

1. What is your gender? Male Female

2. Age bracket

Below 20 21-30 31 - 40 41 - 50 Above 50

3. Year of study

First years Second year Third year

4. Level of study

Artisan Certificate Diploma

SECTION B: Awareness Level on ISO 9001: 2008 standards

5. Is ISO 9001: 2008 certified? No Yes

6. There was enough campaign of awareness on the objectives of ISO 9001: 2008 standards?

Strongly disagree Disagree Undecided

Agree Strongly Agree

7. The role of ISO 9001: 2008 standards is to improve on service delivery.

Not sure False True

SECTION C: Influence of ISO 9001: 2008 standards on students' academic performance of in Coast Institute of Technology

8. Please indicate in the table your feeling towards ISO implementation on a scale of 1 – 5.

1–Strongly Disagree, 2–Disagree, 3–Not Decided, 4–Agree, 5–Strongly Agree.

STATEMENT	S.D	D	N.D	A	S.A
a) ISO standards help improve quality teaching and learning.					
b) Institutions can perform without ISO standards.					
c) Teachers are always available in enhancing quality teaching/learning.					

9. To what extent do you think ISO 9001: 2008 standards have improve quality of academic performance of students?

Not at all Small extent Large extent

10. How do you rate the academic performance in Coast Institute of Technology after the adoption of ISO 9001: 2008 standards?

Poor Satisfactory Good Very good

SECTION D: the extent to which ISO 9001: 2008 standards on curriculum implementation policy are followed by teachers in Coast Institute of Technology

11. The following are key indicators of success in ISO 9001: 2008 standards in an institution. Please indicate those which have been achieved in CIT.

a) Students academic performance has improved in consequent years

b) Syllabus are covered in time

c) Grade to grade transition rate has improved

d) Any other (specify)

12. Are their adequate teaching facilities in CIT? No Yes

13. Briefly commend how teachers cope up with inadequacy of teaching facilities in class.....

Thank you for agreeing to take part in this study

Appendix 3

QUESTIONNAIRE TO TEACHERS

Dear Respondent,

This questionnaire is intended to collect information on Influence of ISO standards and the academic performance in Coast Institute of Technology. The information gathered will be used for research purposes only. Please assist by writing or by ticking (√) in the appropriate line or box, respectively.

SECTION A: Respondent Identity

1. What is your gender? Male Female

2. Age bracket

Below 20 21-30 31 - 40 41 - 50 Above 50

3. Education level

Masters Degree Diploma Certificate Others (please specify)

4. Number of years of experience in your occupation

Less than 5 years 5 – 10 years 10 – 15 years 15 years and above

SECTION B: Awareness Level on ISO 9001: 2008 standards

5. Is ISO 9001: 2008 certified? No Yes

6. The role of ISO 9001: 2008 standards is to improve on service delivery.

Not sure False True

7. Suggest three areas in which you have fully complied with ISO 9001: 2008 standards.....

SECTION C: Influence of ISO 9001: 2008 standards on students' academic performance of in Coast Institute of Technology

8. Please indicate in the table your feeling towards ISO implementation on a scale of 1 – 5.

1–Strongly Disagree, 2–Disagree, 3–Not Decided, 4–Agree, 5–Strongly Agree.

STATEMENT	S.D	D	N.D	A	S.A
a) ISO standards help improve quality teaching and learning.					
b) Institutions can perform without ISO standards.					
c) ISO standards motivate teachers to prepare professionally.					
d) Teachers are always available in enhancing quality teaching/learning.					

9. To what extent do you think ISO 9001: 2008 standards have improve quality of academic performance of students?

Not at all Small extent Large extent

10. How do you rate the academic performance in your institution after ISO standards were implemented?

Poor Satisfactory Good Very good

11. The following are key indicators of success in ISO 9001: 2008 standards in an institution. Please indicate those which have been achieved in CIT.

a) Students academic performance has improved in consequent years

b) Syllabus are covered in time

c) Grade to grade transition rate has improved

d) Any other (specify)

12. Are their adequate teaching facilities in CIT? No Yes

13. Briefly commend how teachers cope up with inadequacy of teaching facilities in class.....

14. In what way has implementation ISO 9001: 2008 standards on curriculum enhanced good performance of students in coast Institute of Technology?.....
.....

SECTION D: the extent to which ISO 9001: 2008 standards on curriculum implementation policy are followed by teachers in Coast Institute of Technology

15. How many times have you been audited

16. Please indicate in the table your feeling towards ISO implementation on a scale of 1 – 5.

1-Strongly Disagree, 2-Disagree, 3-Not Decided, 4-Agree, 5-Strongly Agree.

STATEMENT	S.D	D	N.D	A	S.A
a) Auditors' visits are adequate.					
b) Most of the auditors have expert knowledge.					
c) The role of ISO standards is to improve service delivery.					
d) Auditors inform institutions about their visits.					
e) Auditors are friendly and supportive.					
f) Auditors reports are fair to the institution.					
g) CIT is not prepared as regard to implementation of ISO 9001: 2008 standards on academic policy					
g) I have encountered stiff challenges in implementation of ISO standards					

17. Do you think that ISO 9001: 2008 procedures are being followed by all staff members? No Yes

18. Do you have adequate resources to perform your part in implementation of ISO 9001: 2008? No Yes

19. Give three areas in curriculum implementation which ISO auditors check when they visit you.....

20. Please indicate how teachers are motivated to ensure quality grades in examination.

Tokens Tours and parties Encouragement Any other

21. Give four challenge that you face while working to hit academic performance targets.....

.....

22. Suggest ways you have used to counter the challenges stated above.

.....

23. Please indicate three major problems faced by students in CIT that may affect their academic performance

.....

24. In your opinion what need to be done to make the implementation of ISO 9001: 2008 standards successful in CIT?

.....

Thank you for agreeing to take part in this study

Appendix 4

QUESTIONNAIRE TO SCHOOL ADMINISTRATORS

Dear Respondent,

This questionnaire is intended to collect information on Influence of ISO standards and the academic performance in Coast Institute of Technology. The information gathered will be used for research purposes only. Please assist by writing or by ticking (√) in the appropriate line or box, respectively.

SECTION A: Respondent Identity

1. What is your gender? Male Female

2. Age bracket

Below 20 21-30 31 - 40 41 - 50 Above 50

3. Education level

Masters Degree Diploma Certificate Others (please specify)

4. Number of years of experience in your occupation

Less than 5 years 5 – 10 years 10 – 15 years 15 years and above

SECTION B: Awareness Level on ISO 9001: 2008 standards

5. Is CIT ISO 9001: 2008 certified No Yes

6. If yes state the month and year of certification

7. The role of ISO 9001: 2008 standards is to improve on service delivery.

False True

SECTION C: Influence of ISO 9001: 2008 standards on students' academic performance of in Coast Institute of Technology

8. Suggest three areas in which the administration has fully complied with ISO 9001: 2008 standards on curriculum implementation.

.....
.....

9. Please indicate in the table your feeling towards ISO implementation on a scale of 1 – 5.

1–Strongly Disagree, 2–Disagree, 3–Not Decided, 4–Agree, 5–Strongly Agree.

STATEMENT	S.D	D	N.D	A	S.A
a) ISO standards help improve quality teaching and learning.					
b) Institutions can perform without ISO standards.					
c) ISO standards motivate teachers to prepare professionally.					

10. To what extent do you think ISO 9001: 2008 standards have improve quality of academic performance of students?

Not at all Small extent Large extent

11. How do you rate the academic performance in your institution after ISO standards were implemented?

Poor Satisfactory Good Very good

12. The following are key indicators of success in ISO 9001: 2008 standards in an institution. Please indicate those which have been achieved in CIT.

a) Students academic performance has improved in consequent years

b) Syllabus are covered in time

c) Grade to grade transition rate has improved

d) Any other (specify)

13. Are their adequate teaching facilities in CIT? No Yes

14. If no what measures has the administration put forth to improve the situation.....
.....

SECTION D: the extent to which ISO 9001: 2008 standards on curriculum implementation policy are followed by teachers at Coast Institute of Technology

15. How many times have you been audited

16. Please indicate in the table your feeling towards ISO implementation on a scale of 1 – 5.

1-Strongly Disagree, 2-Disagree, 3-Not Decided, 4-Agree, 5-Strongly Agree.

STATEMENT	S.D	D	N.D	A	S.A
a) Auditors' visits are adequate.					
b) Most of the auditors have expert knowledge.					
c) The role of ISO standards is to improve service delivery.					
d) Auditors inform institutions about their visits.					
e) Auditors are friendly and supportive.					
f) Auditors reports are fair to the institution.					
g) CIT is not prepared as regard to implementation of ISO 9001: 2008 standards on academic policy					

17. Do you think that ISO 9001: 2008 procedures are being followed by all teachers' members? No Yes

18. Do teachers get adequate resources for implementation of ISO 9001: 2008? No Yes

19. Give three areas in curriculum implementation which ISO auditors check when they visit you.....

20. Are their government grants given to CIT for the purpose of ISO implementation? No Yes

21. If yes, are they adequate? No Yes

22. Suggest three ways the institution has used to counter inadequacy of resources.....

.....

23. Please indicate three major problems faced by students in CIT that may affect their academic performance.

.....

.....

24. In your opinion what need to be done to make the implementation of ISO 9001: 2008 standards successful in CIT?

.....

.....

25. Suggest four challenges the administration face while they implement ISO standards.....

.....

26. How can the challenges stated above be dealt with?

.....

.....

Thank you for agreeing to take part in this study

Appendix 5

INTERVIEW SCHEDULE FOR TEACHERS

1. What role do you play in ensuring implementation of ISO 9001: 2008 standards on curriculum implementation policy?
2. In your opinion what factors do you think hamper implementation of ISO 9001: 2008 standards on curriculum?
3. Suggest solutions to problems you feel impede provision of quality education in line with ISO standards on curriculum procedures?
4. Has there been improvement in academic performance since CIT adopted QMS procedures on ISO standards?
5. What is the value added progress in your work performance?
6. What is the relationship between Implementation of ISO 9001: 2008 standards and trends in students' academic performance?
8. What do you think should be done to improve academic performance in Coast Institute of Technology?
7. What is the way forward for Coast Institute of Technology after adoption of ISO 9001: 2008 standards?

Thank you for your cooperation and participation

Appendix 6

Frequency of respondents on ISO awareness

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Disagree	13	8.7	8.7	8.7
Disagree	24	16.0	16.0	24.7
Undecided	10	6.7	6.7	31.3
Agree	74	49.3	49.3	80.7
Strongly Agree	29	19.3	19.3	100.0
Total	150	100.0	100.0	

Source; Research Data (2013)

Appendix 7

Crosstabs of ISO awareness and academic performance

		ISO awareness					Total
		S D	D	UD	A	S A	
Academic performance	Poor	9	0	0	0	0	9
	Satisfactory	4	24	10	3	0	41
	Good	0	0	0	71	14	85
	Very Good	0	0	0	0	15	15
Total		13	24	10	74	29	150

Source; Research Data (2013)

Appendix 8

Frequency of respondents on curriculum implementation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Undecided	18	12.0	12.0	12.0
Agree	126	84.0	84.0	96.0
Strongly Agree	6	4.0	4.0	100.0
Total	150	100.0	100.0	

Source; Research Data (2013)

Appendix 9

Crosstabs of Curriculum implementation and academic performance

		Curriculum implementation			Total
		UD	A	S A	
Academic performance	Poor	9	0	0	9
	Satisfactory	9	32	0	41
	Good	0	85	0	85
	Very Good	0	9	6	15
Total		18	126	6	150

Source; Research Data (2013)

Appendix 10

Frequency of respondents on influence of ISO standards

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly disagree	2	1.3	1.3	1.3
Disagree	11	7.3	7.3	8.6
Undecided	35	23.4	23.4	32.0
Agree	91	60.7	60.7	92.7
Strongly Agree	11	7.3	7.3	100.0
Total	150	100.0	100.0	

Source; Research Data (2013)

Appendix 11

Crosstabs of influence of ISO standards and academic performance

		ISO implementation					Total
		S D	D	UD	A	S A	
Academic performance	Poor	2	7	0	0	0	9
	Satisfactory	0	4	35	2	0	41
	Good	0	0	0	85	0	85
	Very Good	0	0	0	4	11	15
Total		2	11	35	91	11	150

Source; Research Data (2013)

Appendix 12

Frequency of respondents on academic performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	9	6.0	6.0	6.0
	Satisfactory	41	27.3	27.3	33.3
	Good	85	56.7	56.7	90.0
	Very Good	15	10.0	10.0	100.0
	Total	150	100.0	100.0	

Source; Research Data (2013)