

**FACTORS AFFECTING CONTINUING PROFESSIONAL DEVELOPMENT OF  
TEACHERS IN TECHNICAL AND VOCATIONAL INSTITUTIONS IN KENYA: A  
CASE OF NORTH RIFT REGION OF KENYA.**

**KIPKEMBOI PATRICK TOROREI**

**A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF EDUCATION IN  
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF  
THE DEGREE OF A MASTER OF PHILOSOPHY IN TECHNOLOGY  
EDUCATION, UNIVERSITY OF ELDORET, KENYA**

**OCTOBER, 2015**

## DECLARATION

### DECLARATION BY THE CANDIDATE

This thesis is my original work and has not been submitted for any award in any other university. No part of this work should be reproduced without permission from the author and or University of Eldoret.

NAME: **KIPKEMBOI PATRICK TOROREI**

REG NO: **EDU/PGT/08/07**

SIGN .....

DATE: .....

### DECLARATION BY SUPERVISORS

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

NAME: **PROF. OKEMWA PETER.**

SIGN: .....

DATE: .....

NAME: **MR. WOSYANJU CHRISTOPHER.**

SIGN: .....

DATE: .....

## **DEDICATION**

This research thesis is dedicated to my wife Judith whose persistent encouragement always revived the strength in me to bring this scholarly work to accomplishment. This has taught me that even the largest task can be accomplished if it is done one step at a time. It is also dedicated to my daughters Purity, Deborah and Collette for their love and who undoubtedly are the immediate beneficiaries of whatever good that accrues out of this work whether directly or otherwise.

## ABSTRACT

Teacher development is a never ending cycle of learning that begins with initial teacher training and continues for as long as a teacher remains in the profession. The term continuing professional development (CPD) implies all the activities which teachers engage in during the course of a career which are designed to enhance their work. Such activities are intended to result in on-going teacher learning, a process by which teachers move towards expertise. Unfortunately, continuing professional development for teachers remains relatively unexplored. Hence, this study sought to determine the factors affecting Continuing Professional Development of teachers in technical and vocational institutions in North-Rift region of Kenya. In order to achieve the purpose of this study, four specific research objectives were addressed: to find out the frequency of continuing professional development forums such as workshops, seminars and in-service teacher education programmes for teachers of technical and vocational institutions, to identify the themes or issues that have so far been tackled or addressed by such continuing professional development forums, to identify the themes or issues that teachers of technical and vocational institutions need to be addressed and can be tackled through continuing professional development programmes and to establish the major obstacles to continuing professional development of teachers in technical and vocational institutions. The study adopted a conceptual framework by modifying various concepts relating to continuing professional development of teachers of technical and vocational institutions in relation to factors affecting its effective implementation. Cross-sectional survey design based on a sample drawn from six selected technical training institutions was adopted for the study. The researcher used Questionnaires, Interview schedules and document analysis as research instruments to collect the data. The research was validated through piloting and retest of questionnaires while Coefficient Alpha was used to test the internal consistency of the questionnaires. The study population comprised of administrators and teachers from six technical training institutions and Quality assurance and standards officers in district education offices where these technical training institutions are based. A sample of 171 respondents was selected for the study. The data from the research instruments were coded and analyzed using descriptive statistical techniques which included frequencies and percentages. Structured equation model in terms of a path diagram analysis was used to establish the effect of individual and institutional factors on implementation of the continuing professional development programmes. The study found that teachers of technical and vocational institutions are not effectively supported through CPD programmes. This lack of support is related to contextual factors within the institutions as well as factors inherent in the individual teachers. It is expected that the results of this study will create awareness of these aspects among teachers of technical and vocational institutions, their institutions as well as the local CPD organizations. It is also expected that the findings of this study will raise implications to consider for improving the CPD experience of teachers. This study recommends that professional development programmes for teachers of technical and vocational institutions should have stronger ties with the sites of teacher training and that they need considerably more access to professional development if they are to contribute to significant improvements in student achievement.

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**LIST OF ACRONYMS AND ABBREVIATIONS**

<b>CPD</b>	- Continuing Professional Development
<b>DEO</b>	- District Education Officer
<b>GOK</b>	- Government of Kenya
<b>HODs</b>	- Heads of Departments
<b>ICT</b>	- Information Communication Technology
<b>K.I.E</b>	- Kenya Institute of Education
<b>MOEST</b>	- Ministry of Education Science and Technology
<b>OECD</b>	- Organization for Economic Cooperation and Development
<b>PD</b>	- Professional Development
<b>QUASOs</b>	- Quality Assurance and Standards Officers
<b>RVIST</b>	- Rift Valley Institute of Science and Technology
<b>RVTTI</b>	- Rift Valley Technical Training Institute
<b>TVET</b>	- Technical and Vocational Education and Training
<b>UNESCO</b>	- United Nations Educational Scientific and Cultural Organization

## **ACKNOWLEDGEMENT**

Prof. Okemwa and Mr. Wosyanju have been my worthy thesis supervisors. Their sage advice, insightful criticisms and patient encouragement aided the writing of this thesis in innumerable ways. I thank them very much for their invaluable guidance and support without which this thesis would not have been much of a success. Dr. Kitainges' in-depth guidance in the research writing as a whole was greatly needed and therefore deeply appreciated. I won't forget my student colleagues for their moral support and their pieces of advices during my struggle to come up with the title of the proposal and also the much guidance in shaping my work and contributing towards its success. Thank you very much and may God bless you all.

## **CHAPTER ONE**

### **INTRODUCTION TO THE STUDY**

#### **1.1 Overview**

The chapter addresses the background of the study, research problems, justification, objectives, research questions, scope and limitation of study and operational definitions.

#### **1.2 Background of the Study**

The world needs better teachers and more teachers. A UNESCO conference was held in Dakar, Senegal in 2000 to discuss a framework for action on Education for All (EFA). It was reported in the conference that there were more than 100 million children out of school: they needed teachers as the world moves towards Education for All by 2015. This goal and its realization were based on the assumption of the need to raise the skills of the existing teachers, too many of whom were untrained and unqualified (UNESCO, 2001).

Beyond that, the skills and knowledge that all teachers need are no longer fixed and familiar targets but moving ones. Teachers therefore need more opportunities than ever before to go on learning throughout their careers. This can be achieved through the adoption of in-service teacher education for continuing professional development. The system of in-service teacher education is based upon a concept of continuous education (UNESCO, 2002). Its cornerstones are the systematic, continuous, and individual approach to the process of education, as well as the tendency to make the system of education more fundamental, human and humanitarian.

### **1.2.1 Approaches to the professional development of teachers**

Approaches to the professional development of teachers must be dependent on context and culture. For instance, professional development to incorporate ICT into teaching and learning is an ongoing process and should not be thought of as one 'injection' of training (UNESCO, 2002). Teachers need to update their knowledge and skills as the school curriculum and technologies change. Individuals develop in stages and mature over time. Personal development must be accompanied by organizational development in schools, training centers, and universities.

In many regions, teachers engage in preparation before they start teaching in schools, a stage referred to in this thesis as pre-service teacher education. When pre-service teachers begin to teach they may be given additional support to handle the complexity of their work during the first year of their career. This stage of professional development is called induction. The induction stage demands a great deal of effort and commitment, and research in developed countries reveals that around 30% of teachers may drop out during this time (UNESCO, 2002). The final stage, consisting of additional professional development, is called in-service teacher education. This is because teacher education is an ongoing process of lifelong learning. It is important to note that some very strong models of teacher education provide simultaneous professional development for more than one group. According to UNESCO (2002) pg 64:

Pre-service preparation can be aligned with in-service teacher education. A practicing teacher may work with a pre-service teacher education student on an innovative educational project. This not only increases the research potential of the in-service teacher, but the pre-service teacher also experiences role modeling and, as a result, may have an easier transition into teaching.

Professional learning communities or platforms allow teachers to support the professional development of colleagues and receive support themselves. Advancement in technology has increased the access to and reach of such professional associations. Mentorship can be fostered across geographic distances and supported by interaction made possible by technology. Professional development may also be enhanced by public or private partnerships with the community. Such partnerships may be particularly appropriate for professional development related to information communication technologies, with financial and technical support contributed by relevant companies.

### **1.2.2 Importance of professional development of teacher educators**

The professional development of teacher educators is also essential. Unless teacher educators (both at the pre-service and in-service level) model effective use of technology in their own classes, it will not be possible to prepare a new generation of teachers who will effectively use the new tools for learning (Hollingsworth, 2002). Teachers need encouragement to adopt such strategies. The focus of professional development should also be expanded to those who work with teachers: the school leaders, and members of regional and national organizations for curriculum and professional development.

A common vision for the role of information communication technologies in education is important for its success. If not, teachers may find it difficult to incorporate the recent advancements both in content and pedagogy (like the use of ICTs in teaching and learning) into their work without support and encouragement from colleagues, parents, and leaders. Teachers play a pivotal role in curriculum implementation. What needs to be entrenched into education for purposes of improving it can be achieved through in-



service teacher education programmes for continuing professional development of these teachers.

### **1.3 Statement of the Problem**

The Ministry of Higher Education Science and Technology through the Kenya Institute of Education has established Teacher Education Division. The strategic objectives of this division are to coordinate in-service for teachers through *in-service course unit* and to develop curriculum and curriculum support materials for both pre-service and in-service mode of training for teachers of technical institutions through *Technical Teacher Education Section* (GOK. 2002, 2005, 2010).

In spite of the presence of the two sections of Teacher Education Division mentioned above and the recent rapid changes that have occurred both in content and in the need to incorporate modern pedagogical skills in the mode of instruction delivery, teachers of technical and vocational courses (whose responsibility is curriculum implementation) have either received minimal or no continuing professional education and training on the same (GOK., 2010).

### **1.4 Purpose of the Study**

The purpose of the study was to determine the factors affecting the continuing professional development of teachers in technical and vocational institutions in the North Rift region of Kenya (Refer to operational definition of terms).

### **1.5 Research Objectives**

This study sought to determine the factors affecting continuing professional development

of teachers of technical and vocational institutions in Kenya: A case of North-Rif region of Kenya. In particular the study addressed the following specific objectives:-

- i. To determine the frequency of continuing professional development forums for teachers of technical and vocational institutions.
- ii. To identify the themes or issues that has been addressed by such continuing professional development forums.
- iii. To identify the themes or issues that teachers of technical and vocational institutions need to be addressed through continuing professional development.
- iv. To determine the major obstacles to continuing professional development of teachers of technical and vocational institutions.

### **1.6 Research Questions**

To address the above objectives, the study was guided by the following research questions:-

- i. What is the frequency of continuing professional development forums for teachers of technical and vocational institutions?
- ii. What themes or issues have been addressed by such continuing professional development forums?
- iii. What themes or issues do teachers of technical and vocational institutions want addressed through continuing professional development forums?
- iv. What are the major obstacles to continuing professional development of teachers of technical and vocational institutions?

## **1.7 Significance of the Study**

The attention given to teacher education and their continuing professional development has in many cases lagged behind that given to other parts of the education system (MOEST, 2005). There is a wide recognition that teacher education, training and professional development need to be integrated, in ways that operationalize lifelong learning for teachers but the resources allocated to it are usually inadequate and the opportunities too few (Koech Report, 1999). This best describes the situation in Kenya.

The world is changing in all spheres: scientific and technological, political, economic, social, and cultural. There is growing awareness among policy-makers, business leaders and educators that the educational system designed to prepare learners for an agrarian or industrially-based economy will not provide students with the knowledge and skills they will need to thrive in the 21st century's knowledge-based economy and society (UNESCO, 2002). Fortunately, the Ministry of Higher Education Science and Technology has proposed radical changes in the learning institutions to be in line with the current information age where information communication technologies are key issues for the advancement and development of education sector and Kenya as a whole (MOEST, 2005).

Teachers being curriculum implementers will play a pivotal role in this. These objectives will only be realized if the teachers will receive further training on such current issues/changes in content and the use of modern pedagogical skills in teaching. All of these challenges on the part of teachers can conveniently be tackled through their

continuing professional development. This study is thus significant because it seeks to find out the obstacles that have and may hinder continuing professional development of teachers of technical and vocational institutions.

## **1.8 Scope and Limitations of the Study**

### **1.8.1 Scope of the Study**

The study focused on public technical and vocational institutions in the North Rift region of Kenya. The study covered six selected technical training institutions as follows: Eldoret Polytechnic; Rift Valley Technical Training Institute Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; Rift Valley Institute of Science and Technology Nakuru and O' lessos Technical Training Institute. This study was therefore focused on teachers and administrators currently in the technical and vocational institutions in the region and their respective QUASOs. The study was limited to the determination of factors affecting continuing professional development for teachers. The scope of the study was limited geographically to the North Rift region of Kenya. The study took place between August 2010 and August 2011.

### **1.8.2 Limitations of the Study**

The study encountered a number of limitations which may impede answering the research questions and objectives. The main limitation in this study was attributed to the sample size (171) and generalization of the findings. The adequate assessment of the factors affecting continuing professional development for teachers of technical and vocational institutions in Kenya requires a consideration of a large number of teachers, administrators and respective QUASOs that cut across the technical and vocational

institutions in Kenya. However, due to time and human resource constraints, it was not possible to cover a large number of technical training institutions in the country. This meant that only a small sample is viable, tenable and possible. The findings of this study were therefore confined to the 171 respondents composed of teachers, administrators and QUASOs of technical training institutions in the North Rift region of Kenya. However, despite the above mentioned shortcomings, various measures were taken by the researcher so that the study process remained objective, accurate, valid and reliable.

### **1.9 Research Assumptions**

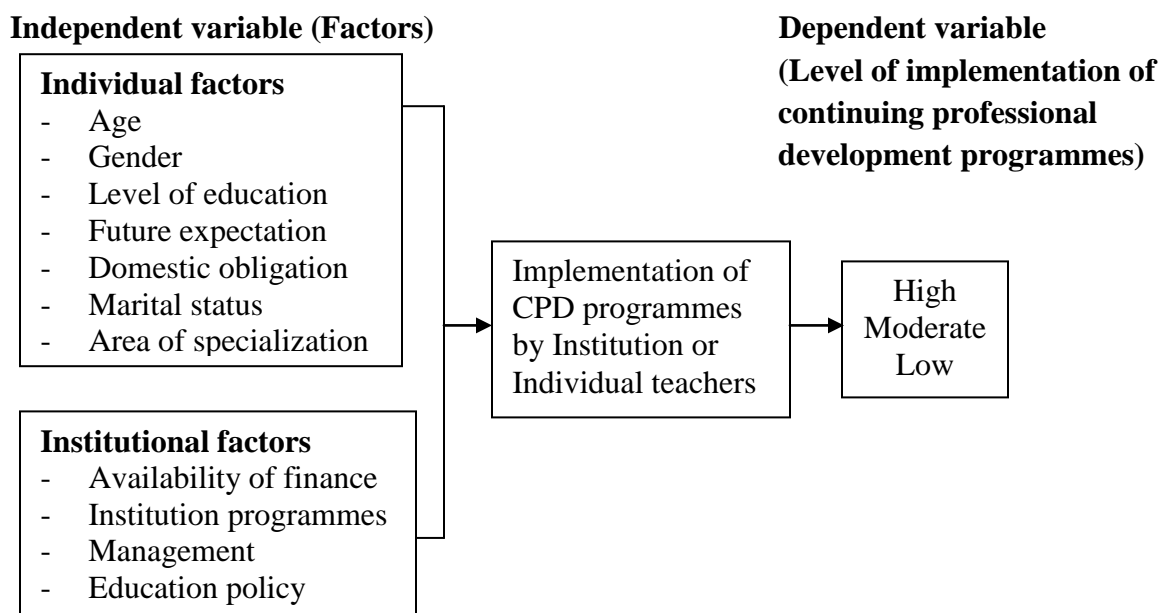
The assumptions of the study were that:-

- (i) The answers given through the research instruments were true reflections of the respondent's answers and that utmost honesty guided answering of the questions
- (ii) It was possible for the respondents to report their personal opinion accurately.
- (iii) The study population selected for the study operated within the same environmental conditions, hence giving related responses that was true and reliable concerning factors affecting continuing professional development of teachers in technical and vocational institutions in the North Rift region of Kenya.

### **1.10 Conceptual framework**

The researcher developed a conceptual framework which reveals the factors affecting implementation of continuing professional development programmes for the teachers of technical and vocational institutions. Factors affecting continuing professional development can be categorized as individual teacher factors and institutional factors (Teachers professional development, 2010).

**Figure 1.1 Conceptual framework of relationship between variables**



(Source: Author, 2011)

The factors are itemized as the independent variable and the level of implementation of continuing professional development programmes for teachers in technical and vocational institutions as the dependent variable. In between them is the implementation of CPD programmes by either the institution or the individual teachers. The factors which influence implementation of the continuing professional development programmes for teachers in technical and vocational institutions may be viewed in terms of individual factors and institution based factors. The individual factors may be gender, age, level of education, experience, and the future expectation of teachers. The institutional factors may be finances, schools programmes, management of the school and the education policy. The level of implementation may be broken down into high level, moderate and low levels. This is shown by the conceptual model in figure 1.1.

The above model shows that the factors which are categorized as institutional or

individual affect the implementation of continuing professional development programmes for teachers of technical and vocational institutions in Kenya. If the factors are appropriately controlled by the institutions and to some extent the education policy, implementation of continuing professional development programmes for teachers of technical and vocational institutions will be high and if they are not appropriately controlled then the implementation of continuing professional development programmes for technical and vocational institutions in Kenya will be low.

### 1.11 OPERATIONAL DEFINITION OF THE TERMS

The following are operational definitions of terms applicable to this study

**Continuing Professional Development Programmes:** Refers to formally organized long-term attempts to regularly update the knowledge of teachers who at some point received pre-service teacher education and to provide teachers with more in-depth and on-going guidance during several years in teaching as the school curriculum and technologies change. It is lifelong learning for teachers.

**Education:** is taken to encompass formal education at primary, secondary and tertiary levels; and adult education as teacher training, tertiary level computer education, distance learning and non-formal education.

**In-service Teachers:** Teachers who are already employed and are teaching.

**North Rift Region:** The region covering Nakuru County, Nandi County, Uasin Gishu County and Transzoia County as per the Ministry of Education Science and Technology administrative zoning.

**Pre-Service Teacher Education:** Refers to formally organized attempts to provide knowledge, skills and dispositions to prepare people who, in general, have never taught in schools.

**Technical and Vocational Education and Training:** The variety of learning experiences which are pertinent to the world of work and which may occur in a diversity of learning contexts, including educational institutions and the workplace and is aimed at imparting skills.

**Technical and Vocational Teachers:** Teachers teaching in Technical and Vocational



institutions like Polytechnics, Technical Training Institutes and Institutes of Science and Technology.

**Vocational training institutions:** It will be used in this study as the nonspecific term for all non-advanced training provision in Kenya.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This review examines the available literature on continuing professional development programmes for teachers, and discusses the findings of various authors. It identifies gaps in the current literature, and suggests ways in which these gaps can be filled, particularly in the context of technical and vocational institutions in the North Rift region of Kenya. It achieves this by reviewing books, journals, articles, seminar papers, research reports, theses and periodicals.

#### **2.1 General Overview of Broad Concept of Teachers' Continuing Professional Development**

The term continuing professional development refers to “all the activities in which teachers engage during the course of a career which are designed to enhance their work” (Day & Sachs, 2004). CPD is often described in the literature using terms such as, staff development, career development, human resource development, continuing education and lifelong learning. The term is also widely used interchangeably with the term professional development. Mann (2005) makes a distinction between PD and CPD referring to the latter as teachers’ “personal development”. PD is career oriented and has a narrower; more instrumental and utilitarian remit; whereas CPD includes dimensions of values, morals and ethics, the consciousness of which is related to decision making in teaching (Johnston, 2003).

In this study, the term continuing professional development is used to refer to ongoing teacher development in technical and vocational institutions in Kenya. Prior to considering the different sources and approaches to continuing professional development, it is important to cross-examine our understanding of continuing professional development. This is possible through first understanding the fact that these various views of professional knowledge have implications for the continuing professional development of teachers in the field. Professional development encompasses the following: initial training, induction courses, in service training and continuous professional development in school settings (Mann, 2005).

This section uses a broad concept of teachers' professional development to summarize the relevant literature and guide an analysis of the factors affecting effective implementation of continuing professional development for teachers in technical and vocational institutions in North-Rift Kenya. Although the term "professional development" is frequently reserved for "continuous professional development in schools", professional development is viewed here as the body of systematic activities to prepare teachers for their job, including initial training, induction courses, in-service training, and continuous professional development within school settings. This last category is viewed as a form of continuous on-the-job training located in school settings (Day & Sachs, 2004).

Professional development is defined as activities that develop an individual's skills, knowledge, expertise and other characteristics as a teacher (Johnston, 2003). This study

opts for treating teachers' professional development in a context of educational quality and seeing professional development as instrumental to student learning and educational achievement. It examines the research literature on teacher effectiveness to identify critical variables that distinguish effective from less effective teachers.

### **2.1.1 Teacher Effectiveness and Teachers' Continuing Professional Development**

Teacher effectiveness can be explained in terms of overall effect by means of observable teacher characteristics. This includes their beliefs and competencies and could be enhanced by training and professional development (Rivkin, Hanushek and Kain 2005). Next, in the area of teaching effectiveness, the state of the art in instructional effectiveness research is discussed in order to identify components of effective teaching repertoires. In addition, it covers teachers co-operating in work teams in the school context. At this level teachers' impact appears in their contribution to effective structures and climates of schooling. Also, some tentative ideas of characteristics of national educational systems that may influence professional development arrangements, such as the degree of autonomy and the operation of accountability and evaluation mechanisms, are considered.

Throughout the history of teacher and teaching effectiveness research, characteristics of teachers' personality have been investigated using variables such as flexibility/rigidity, extraversion/ introversion, locus of control, self-efficacy, general and verbal intelligence (Darling-Hammond, 1999). Darling-Hammond (1999) concluded that the effects of general intelligence are inconsistent and small, but that some studies have convincingly demonstrated a positive impact of verbal ability. Since the degree to which such

personality characteristics are amenable to training is debatable, this area is not further addressed in this study.

Effects of teacher education – usually expressed in terms of formal qualifications such as a BA or MA degree, or being certified to teach in a specific field – have traditionally been included in “education production functions” (Davies, 1993). In industrialized countries, formal qualifications do not appear to make much difference. In developing countries they more often appear to be significant. The explanation is probably that there is little variation in formal teacher training in developed countries, and teachers are more or less uniformly equipped to carry out their job (Johnston, 2003). In developing countries like Kenya teacher preparation is less uniformly distributed. One might say that in developed countries, cross-sectional and comparative studies do not show a strong impact from teacher education because there is a lack of variability in the variable of interest. Results of several studies investigating the effects of teacher experience do not always show the expected positive effect. According to Darling-Hammond (1999) effects are not always significant or linear. Effects of experience are particularly visible when teachers with less than five years of experience are included in the study.

### **2.1.2 Teachers’ Continuing Professional Development and Quality of Education**

Teachers matter in terms of the quality of education. Variability in teaching quality, however, is only explained to a limited degree by characteristics such as formal education, personal characteristics and experience. When teacher preparedness is further analytically differentiated by types of knowledge, both subject matter mastery and pedagogical knowledge (particularly in the sense of subject matter didactics) are relevant

(Johnston, 2003). Given the kind of research studies on which this research area depends, in industrialized countries teachers often vary relatively little in terms of these characteristics. More complex “interactive” constructs such as pedagogical content knowledge are very promising for explaining differences in teacher quality, but the number of studies is too limited to draw strong conclusions (Mann, 2005).

When it comes to forms of training and professional development, a basic distinction can be made between initial training, in-service training courses, and continuous professional development in schools. The entire policy-amenable (i.e. trainable) teacher characteristics discussed in this section is likely to be dealt with in initial training and in-service training. Although pedagogical content knowledge might be seen as having a place in continuous professional development, as it would benefit from thinking about teaching and learning in actual practice, it is probably too dependent on expert guidance and support to be realistically left to school staff.

In order to determine the factors affecting effective implementation of continuous professional development for teachers in technical and vocational institutions in North-Rift Kenya, there is need to differentiate two areas: teaching styles and competencies and teacher beliefs. In the history of research on teaching the focus on personal characteristics of teachers was followed by an interest in teaching styles and repertoires. When studying teaching styles (Davies, 1993), more attention was focused on the behavioral repertoire of teachers than on deeply rooted aspects of their personality. The outcome of these observations rarely revealed a link with pupil performance (Prawat, 1992). In a following

phase, more explicit attention was given to the relation between observed teacher behavior and pupil achievement. This research is identified in the literature as “process-product studies”. Davies, (1993), summarizes variables which emerged “strongly” in the various studies. It includes: clarity, flexibility, enthusiasm, task-related and/or businesslike behavior, criticism, indirect activity, providing the pupils with an opportunity to learn criterion material, making use of stimulating comments and varying the level of cognitive questions and cognitive interaction.

### **2.1.3 Continuing Professional Development in Developed Countries**

This section summarizes teachers’ continuing professional development in developed countries by reviewing recent studies by the OECD (2005) and the European Commission and Eurydice (Eurydice, 2003, 2007, 2008; European Commission, 2009). This overview can serve as prior information on the professional development of teachers in the European countries. This section also discusses policy-amenable characteristics of national educational systems that may have consequences for aspects of teachers’ professional development. The main policy areas discussed are decentralization and accountability. The conclusion presents some tentative hypotheses about the influence of system-level characteristics on teachers’ professional development arrangements.

Comparable quantitative data on professional development are scarce at both national and international levels. The (OECD, 2005) study examined the availability of quantitative data in the 25 participating countries for six areas: the teaching profession and the teaching workforce, preparation and development of teachers, demand for teachers, career opportunities and incentives, the structure of the teacher labour market, and school processes.

EU reports have published basic, mainly qualitative data on continuing professional development of teachers. The most relevant are: *Key Data on Education in Europe* (European Commission, 2009). The study on the teaching profession in Europe examined the position of teachers in full-time compulsory general secondary education in 30 European member countries. The review is prepared according to a common framework; the content varies from country to country.

Professional development is considered a professional duty for teachers in many European countries and regions (Eurydice, 2003, 2008; European Commission, 2009). Yet, teachers are not explicitly obliged to engage in professional development activities in all countries and regions. For example, while continuous professional development is a professional duty in France, Iceland, the Netherlands and Sweden, participation in it is in practice optional (European Commission, 2009; Eurydice, 2008).

In Luxembourg, Poland, Portugal, Slovakia, Slovenia and Spain, continuous professional development is optional, but clearly linked to career advancement and salary increases. In Luxembourg and Spain, teachers who enroll for a certain amount of training are eligible for a salary bonus. In the other four countries, credits may be acquired via participation in continuous professional development programmes and are taken into account for purposes of promotion. In Cyprus, Greece and Italy, continuous professional development is a definite obligation for newly appointed teachers (European Commission, 2009).



Specific continuous professional development linked to the introduction of new educational reforms and organized by the relevant authorities is in general a professional duty for teachers in all countries (Eurydice, 2008; European Commission, 2009). Over half of the countries that participated in the OECD study have no minimum requirement for teachers' participation in professional development. In countries that have set minimum requirements [Australia (some states), Austria, Belgium (French Community), Finland, Hungary, the Netherlands, Scotland, Sweden, Switzerland and the United States (some states)] the requirement is commonly five days a year. The range is from 15 hours a year (Austria) to 104 hours in Sweden. The OECD and EU reports give no information on the time teachers actually spent on professional development.

In the OECD study ten countries reported having mandatory induction programmes for new teachers: Australia (some states), England, Northern Ireland and Wales, France, Greece, Israel, Italy, Japan, Korea and Switzerland. In Scotland, participation in induction is at the discretion of individual teachers. In Canada (Quebec), Denmark, the Netherlands and Sweden induction is offered at the discretion of the school. Eight countries offer no formal induction programmes (OECD, 2005).

In most countries, the school of the new teacher is in charge of providing induction. In Israel, Japan, Northern Ireland and Switzerland teacher induction is organized in collaboration between teacher education institutions and schools. The duration of induction programmes ranges from seven months (Korea) or eight months (Greece) to up

to two years in Quebec, Switzerland and parts of the United States. Mentor teachers, often in cooperation with school management, are in charge of providing teacher induction (OECD, 2005).

In the majority of OECD countries with mandatory induction programmes, the successful completion of a teacher induction programme is a prerequisite for full certification. Only Australia (some states), Japan and Korea have mandatory induction programmes that are not linked with teacher certification (OECD, 2005). The OECD and EU reports give no information on the impact, or experienced impact, of professional development activities on the functioning of teachers. In many countries teachers can obtain a leave of absence and/or a research grant to undertake study or research activities (OECD, 2005).

Professional development in many European countries may be organized during work hours; substitute teachers replace teachers who are absent (UNESCO, 2010). In Belgium, the Czech Republic, Finland, Italy, Lithuania, Luxembourg, Portugal, Romania, Slovenia and the United Kingdom teachers have the right to use a certain amount of paid working time for professional development activities (Eurydice, 2008). In the Czech Republic, teachers are entitled to 12 working days in a school year for independent study. In Italy, in accordance with the freedom to alter the school timetable flexibly, some schools suspend classes for a few days to carry out intensive training initiatives. The employment contract also states that teachers are entitled to exemption from their normal duties for five days in the school year in order to attend training. In Lithuania, the law states that teachers are entitled to five days of professional development training a year, for which

they are remunerated in accordance with their average daily salary. The situation is similar in Slovenia. In Finland, three to five days are set aside for continuous professional development.

In the United Kingdom (England, Wales and Northern Ireland), the statutory conditions of service require teachers to be available for work under the direction of the head teacher for 195 days a year, of which only 190 are teaching days. The five days when school sessions are not required were introduced to support a number of non-teaching activities, including professional development. In Romania, the “methodological day” (several hours or one whole day per school week) provides for the organization of continuing professional development in addition to other activities. Similar arrangements exist in Belgium and Luxembourg (OECD, 2005).

Teachers in Portugal are authorized to have professional development training during their working time, but for no longer than 10 hours a year when it is on their own initiative. Otherwise their annual leave cannot exceed 5 to 8 days. This does not imply that most professional development provision occurs during working hours. On the contrary, professional development activities are generally organized outside working hours (UNESCO, 2010). A lack of substitute teachers and the cost of providing substitute teachers discourage teachers from participation in professional development activities during working hours (Eurydice, 2003, 2008).

Other types of support available for teachers include payment of training-related expenditure and payment of enrolment costs of training. Training- related expenditure

covers both enrolment costs and other costs such as travel costs and is paid in most EU countries where professional development is compulsory (Eurydice, 2003).

In the OECD study (OECD, 2005), it is mentioned that teachers frequently make a financial contribution to the costs of transport, course fees or course materials in recognized professional development programmes. The major exceptions are Chile, Northern Ireland and Sweden where teachers generally do not contribute to such costs.

#### **2.1.4 Continuing Professional Development in Kenya**

The development of education in Kenya has been marked by dramatic changes and challenges in recent years which have had various impacts on the sector. Such changes have necessarily involved shifts in policy paradigms, most of which mirror the specific socio-political priorities of the government. With these shifts, new concerns arise and policy changes necessarily take place. Teacher Education Division was started as a service division to all other divisions in the Kenya Institute of Education. Before, each Division was responsible for teacher education programmes relevant to its area of operation (GOK, 2005). The vision of Teacher Education Division is to provide leadership in quality Teacher Education through research design and development of relevant and sustainable teacher education programmes and training in Kenya. Teacher Education Division has a mission to network with other stakeholders in Teacher education in order to conduct educational research. It also designs and develops relevant Teacher Education curriculum and curriculum support materials for use in teaching learning processes in Teacher Training Colleges. The core values of teacher education are: Professionalism, Innovation, Dynamism, Diligence, Integrity, Networking, Fairness

and Excellence. The functions of the Division are to:

- Conduct research in teacher education curriculum.
- Design and develop teacher education curriculum.
- Orientate teacher – trainers on implementation of the curriculum.
- Develop curriculum support materials for teacher education both in print and electronic media.
- Produce and disseminate teacher education curriculum and support materials.
- Design and develop in-service materials for practicing teachers and teacher-trainers on any changes or reforms in the curriculum.
- In-service teacher-trainers and practicing teachers on modern pedagogy.
- Collaborate and net-work with stakeholders in education within and outside the country.
- Undertake continuous monitoring and evaluation of Teacher Education programmes.
- Customize courses for individual institutions to meet their varied teacher education needs.

To achieve these functions, Teacher Education Division has been divided into seven sections namely:-

1. *In-service Course Unit* responsible for coordinating in-service for teachers
2. *Adult Teacher Education Section* addresses Adult Teacher Education issues
3. *Special Education Teacher Education Section* designs and develops curriculum on Special Education Teacher Education.
4. *Early Childhood Teacher Education Section* initiates development of

curriculum for both pre-service and in-service Early Childhood Teacher Education programmes

5. *Primary Teacher Education Section* develops curriculum for both pre-service and in-service mode of training

6. *Secondary Teacher Education Section* develops curriculum for both pre-service and in-service and curriculum support materials

7. *Technical Teacher Education Section* develops curriculum and curriculum support materials for both pre-service and in-service mode of training for this section (GOK, 2005)

Teacher Education Division has its strategic objectives being; to develop and to revise teacher education curriculum in line with dynamism in society; to develop teacher education curriculum support materials; to enhance teacher capacity through in-service training and incorporating modern pedagogical skills and to collaborate and network with stakeholders in education for wide ownership, participation and knowledge enrichment. At the present moment one of the top priorities in Kenya is the modernization of in-service teacher education system, teacher-training in particular, which is defined by UNESCO as a "queen of education" and gives every specialist an opportunity to bolster and enhance both general and professional knowledge and skills (UNESCO, 2010). The strategy of in-service teacher education is undergoing change at the moment: educational institutions have been tasked to work on the development of the educational system rather than on its functioning. It places more emphasis on research than on re-transmitting tasks, directed at assessing educational needs, studying the in-service educational system

as a junction of on-going processes, participating in drafting regional programs on the development of education and so on.

## **2.2 Frequency of Continuing Professional Development Forums**

Teacher education refers to formally organized attempts to provide more knowledge, skills, and dispositions to prospective or experienced teachers. These attempts usually are part of a number of strategies to improve the overall quality of education in a given country's education system. Beliefs about what teachers should know are linked intrinsically with beliefs about the type of knowledge worth teaching in schools. One definition of teacher development is given by Lange (1990) who describes it as a "process of continual intellectual, experiential and attitudinal growth of teachers" which is vital for maintaining and enhancing the quality of teachers and learning experiences. It should also be noted that continuing professional development is necessary for the development of teachers' careers; hence it is important that it should be carried out as frequently as possible.

However, in-service and professional development does not take place as frequently or as intensely as teachers themselves would prefer. In many cases, the amount of in-service professional development is limited. Smith *et al.*, (2003) found that 73% of their sample ( $N = 104$ ) received 3 days or fewer of paid professional development release time annually, and 23% received none. Indeed, the attention given to teacher education and their continuing professional development has in many cases lagged behind that given to other parts of the education system. Some countries lack a policy for it, though the importance of teachers is emphasized in many international reports (e.g., UNESCO 1998,

UNESCO 2000, and OECD 2001). However, these reports fail to take into account that different countries have different methods of providing professional development to teachers. In some countries, the education authorities provide training to teachers, while in others; professional development is the responsibility of teachers. Therefore, it is difficult to compare the frequency of training between countries which organize it differently.

Although there is wide recognition that teacher education, training and professional development need to be integrated, in ways that operationalize lifelong learning for teachers, the resources allocated to it are usually inadequate and the opportunities too few. In some countries teachers can expect one week's in-service professional development once every five to ten years. On average, countries spend around one per cent of their annual education expenditure on the continuing professional development of teachers while the business and industry typically spend 6 per cent on staff development (UNESCO, 2001). Therefore, relevant ministries of education need to allocate more resources for the purpose of teachers' continuing professional development, as this will free teachers from the burden of combining further education with their jobs. This takes a toll on their performance, hence the issue of resources should be seriously considered.

Workshops, which are one of the most common and useful forms of professional development activities for teachers (Richards et al. 2001), are intensive short term learning opportunities that are designed to allow teachers to attain specific knowledge and skills which they can later apply in their classrooms (Richards and Farrell 2005). Unfortunately, due to the short duration of these workshops, teachers may learn useful skills, but the certification provided in many of these workshops is not recognized, as



opportunities for professional advancement are limited to those who have university degrees, such as master's degrees. Nevertheless, workshops can be beneficial in a number of ways: they can provide input from experts, provide teachers with the opportunity for hands-on experience with the topic, raise motivation, offer practical classroom applications, develop collegiality, support innovations and are flexible in organisation. Richards and Farrell (2005) recognize that workshops are ideal formats for introducing an educational innovation and preparing teachers for the change. Unfortunately, due to the intensive nature of teaching, during the school term, teachers do not have the time to participate in workshops. This means that workshops are limited to the school holidays, which precludes the participation of other teachers, namely those who are in charge of sports, and those who supplement their incomes by providing private tuition (Mann, 2005).

Another method of teacher training, which unfortunately doesn't count towards continuing professional development, is peer coaching. Richards and Farrell, (2005:143) define peer coaching as: "A confidential process through which two or more professional colleagues work together to reflect on current practices, expand, refine, and build new skills, share ideas; teach one another; conduct classroom research; or solve problems in the workplace". It is thus a learning situation that arises through the collaboration between two colleagues, with one adopting the role of coach as they explore a particular aspect of instructional practice. The coach would provide feedback and suggestions to the other teacher, depending on the goals established between them from the outset. The advantage of this method of training is that it can be conducted continuously on the job, and so it is a form of in-service training. However, it also raises certain issues on

continuing professional development. To begin with, there must be willing mentors and willing trainees. In an education system that is known for its heavy workload, it is difficult in the Kenyan context to see whether any teachers will be willing to volunteer to train fellow teachers, in addition to teaching students. If the Ministry of Education would be willing to provide funds to pay teachers who are willing to act as coaches, it is probable that more senior teachers would be willing to mentor younger colleagues.

Another aspect of peer coaching that is likely to discourage teachers from participating in it is its largely informal nature. Although peer coaching may equip teachers with skills to perform effectively in the classroom, there is no formal certification, and thus teachers would prefer to ignore peer coaching in the interests of pursuing a formal degree. In addition, the time factor, coupled with the lack of resources from education authorities to support a peer based mode of professional development, mean that peer based coaching is not a viable option for professional development in Kenya.

In many countries, In-service teacher education seems to be the most widespread approach to formal teacher development. In-service programs regularly update the knowledge of teachers who at some point received pre-service teacher education (McGinn and Borden, 1995). Unfortunately, in-service training programmes are affected by the same informality that affects other forms of training stated above, which makes them unattractive to teachers. While some in-service training programmes are compulsory, they do not result in much in terms of professional development, which is why they may not be high on the priorities of teachers (Davies, 1993). Alternatively, some forms of in-service training are provided to teachers based on their performance, as

determined from the exam scores of their students. This provides teachers with an incentive to encourage cheating, which, although it is not a part of the current study, has detrimental effects to the education system as a whole.

Schiefelbein (1992) reports that the modes of delivery of in-service approaches include short-term residency programs, continuous training, visits programs and distance education. Short term residency programs are limited in frequency by the heavy workload of teachers, while continuous training, such as peer coaching, is hampered by the lack of time and resources in schools. Visits are not normally seen as a form of continuous professional development in Kenya, primarily due to the lack of time, and also because head teachers perceive them as intrusive, as is perceived during visits by school inspectors. Although distance learning seems to be an answer to these problems, the fact is that many teachers have no time after work, as they are either engaged in work related issues, such as marking exercise books, or in income generating activities, or are attending classes in higher learning institutions (paid for out of their own pockets) to boost their career prospects.

Wilson and Corbett (2001) concur with the preceding author, stating that much of the professional development attended by adult education practitioners is offered at centrally organized workshops and conferences rather than in local or program settings. The predominant form of professional development is short-term training and single-session workshops. As explained above, the benefits of such short term training interventions are limited to classroom settings, and their short term nature, coupled with their infrequency, mean that they cannot be properly described as continuous professional development.

## **2.3 Issues that have been addressed by continuing Professional Development Forums**

In professional development forums, the issues generally addressed include general pedagogical knowledge, which is knowledge of pedagogical principles and skills in using techniques and strategies that are not subject-specific, including aspects of classroom management and discipline (UNESCO, 2010). The training carried out in workshops focuses mainly on specific aspects of teaching. This is in sharp contrast to the content of education courses in institutions of higher learning, which essentially teach the same courses that teachers learn in their pre-service training, but at a more advanced level.

Pedagogical content knowledge is also taught in continuing professional development. This is specific knowledge of how to teach a particular topic or content area in a particular subject domain. It offers a variety of methodological options that are available to the teacher, and it broadens teachers' awareness of instructional strategies that could be applied to the teaching of their subjects (OECD, 2005). Alternatively, teachers can take university courses in their areas of specialization. This is particularly relevant for teachers in technical and vocational institutions, as they teach specialized subjects that cannot easily be catered for by brief workshops.

### **2.3.1 Importance of Continuing Professional Development Forums**

Continuous professional development is also important in disseminating curriculum knowledge – knowledge about the particular materials and techniques used by the teacher. Often changes in curricula, such as new textbooks, call for the reorientation of teachers' thinking. In this particular context, workshops and distance learning are more

useful in delivering curriculum knowledge to teachers than university courses. This is because substantive knowledge in any field changes gradually over time, while curricula change more frequently, and thus require more frequent means of updating teachers than a one-time university course.

Freeman (2001) describes how teacher education in the past was premised on the notion that it involved the transference of knowledge about teaching, with little attention devoted to how teachers build their own understandings of teaching through the integration of theory, research, opinion, experience and cognition. This state of affairs contributed to the stagnation of knowledge on teaching, with many authorities in the field believing that there was nothing more to contribute towards pedagogy. However, the rise of new information and communication technology has revolutionized the world of education; therefore teachers need to keep up with these changes. Teacher learning is now regarded as an essential process that should be on-going and lifelong. Clarke and Hollingsworth (2002) recognize that current theoretical approaches to professional development of teachers align most closely with the “change as growth or learning” perspective. This implies that continuous professional development of teachers should no longer be optional and/or voluntary, as teachers will need a wide variety of new skills in order to effectively teach the next generation, and continuous professional development will play a big role in this regard.

Hativa and Goodyear (2002) also recognize the importance of addressing teachers’ current theories and belief systems, and suggest that teachers need to reflect on their own theories, articulate them explicitly, and compare them with those of their colleagues. It is

possible that forums for continuous professional development for teachers may just be repeating the same content, year after year, without acknowledging the pace of change in education and in society in general. Freeman (2002) emphasizes that reflection “must become a central pillar” in teacher development. To do this, he states that it is important to “teach the skills of reflectivity” and “provide the discourse and vocabulary that can serve participants in renaming their experience”. In order to develop understanding through reflection, the author points out that one needs the words to talk about what one does, and in using those words one can see it more clearly (Freeman, 2002). Articulation is not about words alone, however. Skills and activity likewise provide ways through which new teachers can articulate and enact their images of teaching.

This finding is confirmed by Sandholtz’s (2002) study which revealed that teachers regarded hands-on activities that were directly relevant to their teaching situation and which they could utilize in their classrooms as being essential to a teacher development programme. They saw little value in learning about techniques and strategies that were impossible to implement. This exposes an interesting paradox: while teachers may be more interested in the practical side of teaching, which they can get from workshops and seminars, these will only help them to teach better, but will not give them the qualifications that will advance their careers. On the other hand, professional university courses will improve a teacher’s promotion prospects, but will not make him or her better teacher, as these courses are mainly theoretical. It is therefore necessary for teachers to do something important, and not simply hear about it. Integrating the creation of lesson plans and teaching materials that can be used in their own classrooms as a key part of in-service training is therefore crucial.

However, it must be acknowledged that continuous professional development is no substitute for inadequate pre-service training. In other words, continuous professional development can turn a good teacher into a better teacher, but it cannot turn a bad teacher into a good one (UNESCO, 2010). Poor quality in-service training compounds poor pre-service training in many countries. Teachers need continuous professional development as well as support from peers and supervisors. Unfortunately, continuous professional development is usually scarce, one-shot, top-down, unrelated to a broad strategy, and not targeted at the teachers who need it most (European Commission, 2009). In the absence of appropriate support, teachers can quickly lose motivation. Thus there needs to be effective interventions in the provision of continuous professional development to teachers. It has been noted in many countries, including Kenya, that teacher themselves fund their own professional development. More teachers will be willing to engage in professional growth by giving them training grants. While the grant scheme is common among teaching staff in universities, who are even given study leave, teachers in technical and vocational training institutions do not have such opportunities. Therefore, the relevant authorities are encouraged to do something to ease the burden on teachers' shoulders.

Richardson and Placier (2001) state that the professional development forums of the 1980s and early 1990s were based on a training paradigm which implied a deficit-mastery model and consisted of "one-shot" professional development approaches. Research on these programmes has provided evidence of the failure of earlier concepts of teacher learning as something that is done to teachers, in which teachers are passive participants. Teacher learning is seen as an active and constructive process that is

problem-oriented, grounded in social settings and circumstances, and takes place throughout teachers' lives (Clarke and Hollingsworth, 2002). Therefore, continuous professional development cannot be divorced from the realities which teachers face daily in the classroom. Thus training programs, regardless of whether they are delivered through seminars and workshops or through professional courses, have to take into account the practical experience of teachers and their willingness to contribute their knowledge towards their own career development. From this perspective, the focuses of teacher learning is on professional activities in schools and on participation in a community of learners (Dam and Blom, 2006) in which teachers and students are collectively engaged in the acquisition of knowledge.

#### **2.4 Themes that need to be addressed by continuing Professional Development**

The previous sections have highlighted some of the problems faced by teachers in the access to continuous professional development, in the form of irregular and unpredictable frequency of professional development forums, and the issues which are addressed in these forums. The discussion so far shows that these forums in and of themselves do not address all the problems facing teachers' continuing professional development. Nonetheless, behind these challenges are opportunities with which to overcome them. For instance, to the teacher, continuing professional development through in-service teacher education programmes means increased access and flexibility as well as the combination of work and education (Richardson and Placier, 2001). This may be an advantage where teachers have the free time to engage in professional development, but if they do not, in service training may be an additional burden to their considerable workload. Depending on the format or structure in-service programmes may take; it may also mean a more



learner centred approach, enrichment, higher quality and new ways of interaction. Thus one of the issues that need to be addressed in continuous professional development forums by education authorities is looking for means to offer teachers high quality and cost-effective professional development while teaching. It allows upgrading of skills, increased productivity and development of a new learning culture (Dam and Blom, 2006).

In most countries schooling is characterized as using a “transmission model” where teaching is telling, and learning is “absorption.” This description fits most teacher education as well (Prawat, 1992). Of course, teachers are more capable of expressing themselves than school pupils, and therefore a top down-approach, which is vaguely dictatorial, is unsuitable for the continuous professional development of teachers. In addition, the current forums for training teachers do not address the aspect of teachers’ knowledge of learners, which includes awareness about and familiarity with one’s own students, their learning strategies, problems and needs in learning. Thus teacher training needs to take this into consideration in order to know how to cater for all learners’ individual differences. If the goal of teaching is to promote learning, teachers need to be aware of the centrality of learners and how teacher behaviour will affect individual learners (Randall and Thornton 2001). This may mean that teachers may have to take courses in subjects such as psychology. However, since the cost of such courses is prohibitive, elements of psychology should be introduced into the current framework of teachers’ continuous professional development.

Freeman (2001) identifies that knowledge of learning (theoretical knowledge of learning, including an understanding of the physical, social, psychological and cognitive development of students) is an area that has been often neglected in teacher education where the knowledge of the subject matter appears to have been central. Therefore, the current setup of teacher professional development means that teachers may be very well versed in their specialist subjects, but do not have a clue as to how to handle the learning process in a real classroom situation, which may throw up unexpected contingencies that cannot all be catered for in a training curriculum.

Richards and Farrell (2005) describe four different conceptualizations of teacher learning: they view teacher learning as skill learning; as a cognitive process; as personal construction and as reflective practice. The first of these conceptualizations views teacher learning as the “development of a range of different skills or competencies, mastery of which underlies successful teaching” (p. 6). This suggests that one can learn to teach by mastering one discrete skill (e.g. Knowledge of a particular subject) at a time. Teacher professional development is also a cognitive process, as teachers will have to use their cognitive skills to incorporate what they have learnt and to use it in a classroom setting. The element of personal construction arises at the personal level. A large group of teachers may receive the same type and duration of training, but they may interpret and implement it in vastly different ways in the classroom. This suggests that professional development is not supposed to produce uniformity of teaching, but to produce a group of teachers who are equally capable of disseminating knowledge to students, regardless of their personal characteristics.

The reasoning behind continuous professional development is not because teachers need to “repair a personal inadequacy” (Clarke and Hollingsworth 2002:948), but as a quest for “greater fulfilment as a practitioner of the art”. In other words, teachers want to be better at what they do. The authors recognize that career growth is an important ongoing goal of teaching professionals. But if such a goal is to be achieved, they argue that teacher education programmes must not only transmit knowledge, but must also engender favourable attitudes to growth and change among teachers. This can be done by amending teacher professional development programmes to acknowledge the expertise of teachers, so that there is a more participative learning process, rather than a replication of the “teacher centred” training model that does little to enhance teacher skills.

It is perhaps partly due to the failure to incorporate theories of adult learning into the process of training teachers that innovations are seldom implemented as intended. Markee (2001) reports that almost three quarters of educational innovations are likely to fail over time, without ever reaching the adoption stage. This low rate of success stems largely from the fact that policy makers are too often concerned with the “what” of innovation rather than the “how”. Karavas-Doukas (1998) reports that educational authorities tend to mandate the implementation of new teacher training programs without ever carrying out follow up studies to determine the effectiveness of earlier interventions. Such studies could pinpoint problems in the programs, and help to avert similar ineffective interventions in the future.

Senge et al (2000) recommend that the objectives of a teacher development programme should be specific and limited in order to maximize the benefits. The need for initial

change proposals to be small is reiterated by those who argue that if started on a small scale, it will “grow organically”. This is supported by the experience of teachers, which shows that teachers are usually reluctant to accept wide, sweeping changes in which they have no say. Thus if a training innovation can be introduced at a small scale with demonstrable success, then more teachers will be willing to adopt it later on.

Although Sandholtz’s (2002) study showed that school-based professional development programmes were considered by teachers to be the least effective, this does not diminish the value of running school-based programmes. The author notes that the reason why teachers in the study generally disliked school-based programmes had little to do with them being school-based per se, but more to do with the way in which these school-based programmes were run. This indicates that a dictatorial approach, in which authorities impose their will on teachers, rather than collaborating with them, will run into institutional resistance and fail. In a similar vein, Wilson (2000) discusses the merits of conducting teacher development in the context in which they themselves teach, pointing out that there then exists the opportunity to apply and test the new ideas in their own classrooms. The author points out that when in-service programmes are divorced from the work context and take place either outside school, teachers would find it difficult to apply what they learn when they return to their classrooms. This is also true of university courses. However, theoretical studies are just as crucial as practical knowledge, and neither can exist in isolation, therefore the integration of theory and practice needs to be integrated in the continuing professional development of teachers.

Teacher education must adopt a bottom-up approach where the starting point is an internal (arises from the teachers themselves) view of teaching rather than an external one (imposed on them by an outsider). A top-down approach would leave the teachers feeling that they have no real personal investment in the programme and may therefore be less committed to it. Thus there is need for teacher input in the design of professional development programmes. It is possible that the programmes designed by officials in educational authorities who are responsible for developing teacher training programmes have no teaching experience or who taught so long ago that their experience is no longer relevant. Involving teachers in the planning and delivery of training programmes is fundamental to their success. In doing so, teachers' own needs and wants can be identified and catered to. Teachers must be given opportunities to participate in decisions about what they will learn, how they will learn, and how they will use what they learn. This can be done through surveys, interviews and group discussions involving teachers (UNESCO, 2010).

Wolter (2000) suggests that since teachers have a rich knowledge of their own learning-teaching situation, they are better equipped than the programme instructors to determine how the innovation can function within their context. This role of expert authority, Wolter argues, should be explicitly stated to the teachers, so that they feel that the programme is less of a one-way transfer of information and more of a two way exchange of ideas. Such a cross-fertilization of ideas will actually help education authorities to develop training materials, as the feedback from teachers in one year can be used to train other teachers in subsequent years, and so on. In this way, teacher training begins to fall within the parameters of professional development.

James (2001) concurs, arguing that an effective professional development programme should exploit fully the knowledge that teachers bring with them, and that presentation of new ideas and information must take into account teachers' existing frames of knowledge and experience. A collaborative teacher learning environment promotes the idea that learning should be active; that new understandings are discovered through problem solving and interaction. Indeed, exchange of ideas will provide an opportunity for teachers to relate their experiences, not all of which will be common. Thus teachers will be able to learn from the real life experiences of their colleagues. Teachers value opportunities to talk and reflect with other teachers in their discipline about their strategies (Sandholtz, 2002).

Activities that involve collaboration acknowledge the knowledge and expertise of teachers as each individual and more importantly, as a resource person. Furthermore, collaboration diminishes the perceived role of the programme facilitator as the expert and increases the feeling of it being a joint venture (OECD, 2005). In a collaborative learning atmosphere, expertise would emerge as a feature of the group rather than being associated with a single individual (UNESCO, 2010). Therefore, future continuous professional development should consider the collaborative aspects of learning, rather than the "top down" instruction that has commonly been the case.

## **2.5 Major Obstacles to Continuing Professional Development of Teachers**

UNESCO (2001) has recognized that resource constraints greatly affect the implementation of continuous professional development. This creates the need to find ways of using existing resources differently, of expanding access to learning

opportunities at affordable cost, of providing alternative pathways to initial teacher training, of drawing on new constituencies of the population to work as teachers, of using technologies appropriately to enrich a teachers' context and support practice, of stimulating and supporting teachers' active learning and of re-conceptualizing the traditional organization of initial teacher education and continuing development. However, none of this can take place in a vacuum, hence the need for teachers to collaborate in every step of the process. Prawat (1992) state that shifts in procedure is reflected in theories of how people learn to teach. Theories based on constructivist, cognitive, and developmental foundations argue that emphasis in teacher education should be placed on thought processes more than on specific practices. While there is some merit in this argument, specific practices cannot be ignored. In spite of frequent calls for reform, there has been little change in the way teachers are educated and in the way they teach (McGinn and Borden, 1995). In order to keep up with the changing times, teacher development will need to be responsive to the needs of teachers.

Historically, teacher development consisted of "one-shot" workshops "aimed at teacher mastery of prescribed skills and knowledge" (Clarke and Hollingsworth, 2002). These skills are merely the basic requirements of teachers who are beginning their careers. Teachers find these one-shot workshops boring and irrelevant, and claim to forget more than ninety per cent of what they learn (Miller 1998). This is indicative of the previous procedure of teaching teachers in exactly the same manner that teachers teach their own pupils, completely ignoring the input that they have to offer. The author describes a typical one-shot workshop where after the first fifteen minutes, "some teachers were doodling. Others closed their eyes. Many repeatedly looked at their watches." Despite the

unpopularity of the approach with teachers, despite the research evidence that suggests its ineffectiveness and failure to address theories of adult learning, Sandholtz (2002) reports that it is precisely this type of approach that the majority of teacher development programmes still adopt. It is anticipated that the current research will address this issue and will suggest what can be done to change the methods of continuous professional development.

Another problem in continuous professional development is institutional inertia. Lamie (2004) commented on how school culture and teacher relationships can affect the process: when considering teachers as a group in the school culture senior teachers were not only more resistant to change, they were also less likely to believe that it would work. Junior teachers who have attended training courses may also feel it is inappropriate to relate their experiences to senior teachers. Thus there needs to be a more open forum in which teachers of all ages will feel free to participate. After all, a young teacher's experience might be similar to that of an older teacher in the forum, who can advise him or her accordingly.

Voluntary participation based on each teacher's individual needs and interests is seen to be a key feature that affects the success of a programme (Sandholtz, 2002). This relates to respecting teachers' individuality and different levels of knowledge and expertise. Robb (2000) maintains that "choice is necessary... choice is at the heart of making a commitment... it allows teachers who are sceptical about change to be observers and listeners and to talk to colleagues who are actively involved in professional learning before making a personal commitment" (p.3). Voluntary programmes can be used to



enhance the skills of teachers. However, there should be a compulsory element in continuous professional development, such as requiring that teachers have certain qualifications in order to get a promotion. This will encourage all teachers to develop themselves.

Despite the best efforts at planning, there is often a significant difference between what is proposed in a teacher development programme and what is subsequently evidenced in the classroom. This is often due to the various practical constraints that stand in the way of innovation. These include environment and school culture, the availability of time and resources, peer pressure to conform, etc. Lamie (2004) commented on how school culture and teacher relationships can affect the process: when considering teachers as a group in the school culture, senior teachers were not only more resistant to change, they were also less likely to believe that it would work. However, when continuous professional development is up to the teachers themselves for the purposes of career development, even older teachers will be motivated to build on their skills and knowledge. Apart from the practical constraints that thwart change efforts, teachers themselves are often regarded as being impediments to change. As Lamie (2004) found, it is not a question of teachers' inability to change, but a lack of self-confidence and self-worth that impede some teachers in facing change. A lack of adequate information available to teachers regarding the innovation can also hinder change efforts, as can negative attitudes towards issues involved in the innovation.

## **2.6 Attitudes of Teachers towards Continuing Professional Development**

Clark and Peterson (1986) agree that teachers' theories and beliefs represent a rich store of knowledge, and argue that teachers make sense of their world and respond to it by forming a complex system of personal and professional knowledge. Thus this store of knowledge cannot be ignored when designing training programs for continuous professional development for teachers. In referring to beliefs as personal knowledge, Kagan (1992) argues that much of a teacher's professional knowledge can be more accurately regarded as belief. Kagan believes that as a teacher's experience in the profession increases, this knowledge grows richer and more coherent and forms a highly personalised pedagogy or belief system that constrains the teacher's perception, judgement and behaviour.

Whether a belief is held consciously or unconsciously, it is always accepted as true by the individual, and is "imbued with emotive commitment" (Borg 2001), serving further as a guide to thought and behaviour. This confirms that the hostility of older teachers towards change is a real and significant factor that cannot be overlooked. Lamie's (2004) study however did not find any clear connections between attitudes and behaviour and commented that: a positive attitude towards an act did not necessarily result in that act being implemented, and correspondingly a negative attitude did not always result in an act not taking place. This suggests that other issues may have greater influence, or impact. Alternatively, it is possible that the study did not take into account all the factors affecting the implementation of continuing professional development of teachers. This is a fertile topic for other researchers to conduct, to see if they can replicate the first study's findings.

According to Bitan-Friedlander et al (2004) teachers develop various strategies of behaviour in order to escape from, avoid or delay the implementation of the innovation. If teachers perceive that a training program is in their benefit, then they will put in the work to help it succeed. However, if they feel that the program will only add to their workload without any tangible benefit, then their response to it will be hostile. Many teachers do not see the connection between improving teaching and improving learning. They believe that implementing proposed innovations will do little to create meaningful change in the wider perspective of things. Large numbers of students in their schools consistently failed to achieve the ultimate goal – a pass grade in the final examination. Since these teachers attribute this failure to factors beyond their control, they do not see the need to change as any change would be, in their opinion, futile. As Anderson (2004) observes, in such contexts, teachers must be shown that a change – however small – on their part can make a difference to learning. However, many teachers take part in continuing professional development, not to improve the performance of their students, but to improve their own career prospects.

Another factor that affects the lack of innovation diffusion, leading to what James (2001) refers to as “tissue rejection”, is teachers’ lack of perceived need to develop. Teachers do not regard professional development as an integral part of their work. Many of the teachers are opposed to development, challenging the very ideas that they need to develop, stating that they have nothing new to learn. According to Hargreaves (2005) teachers in the early stages of their career are the most open to change, and those nearing the end of their career show the most resistance while mid-career teachers who are relaxed in their professional duties are also fairly flexible and positive towards change.

Thus implementers of continuing professional development may be forced to admit that some teachers are not suitable for development, because they will not be “continuing” i.e. they will soon be retiring.

Schiefelbein (1992) who investigated high school teachers in Colombia noted that there was a lack of interaction between teachers. For many of them, teaching was a “private undertaking”. This is also seen in schools in other places. A forum where large numbers of teachers can interact and discover that they have challenges and benefits in common would be beneficial for such teachers.

The best way to motivate teachers would be through the use of Maslow’s Hierarchy of Needs theory, which postulates that humans have specific needs that must be met. There are five ‘levels’ of need, namely physiological (thirst, sex, hunger), safety (security, stability and protection), love and belongingness, self- esteem and self-actualisation (Maslow, 1943). A key proposition is that if the lower level needs remain unmet, the higher level needs cannot be fulfilled. This theory seems particularly relevant to teachers because meeting the basic survival needs for food and shelter are major daily challenges for teachers in many countries. These can seriously impair the realization of higher level needs without which effective teacher performance cannot be attained. For example, teachers who are tired and hungry and excessively preoccupied about meeting their household’s livelihood needs are unlikely to become strongly motivated by their involvement in professional development activities. Therefore, teachers’ attitudes can be changed for the better if they are supported in pursuing continuous professional development.

## **2.7 Summary of literature review**

The study aimed at investigating the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. Comparable quantitative data on teachers' continuing professional development is scarce both at the national and international level. The study therefore, investigated this issue through a number of objectives, such as the frequency of continuing professional development forums such as workshops, seminars and in-service teacher education programmes for teachers of technical and vocational institutions. The study also looked at the themes or issues that have so far been addressed by continuing professional development forums, and identify the themes or issues that teachers of technical and vocational institutions need to be addressed through continuing professional development programmes. The study also determines the major obstacles to effective implementation of continuing professional development programmes, and finds out the attitudes of teachers towards continuing professional development programmes, and suggests what can be done to change attitudes for the better. Clearly, even in terms of a basic description of training and continuing professional development of teachers in Kenya, this study can be seen as filling in "blanks" in the knowledge base.

## **2.8 Summary of gap found**

We can summarize the literature review gap as follows: It was noted that continuing professional development is necessary for the development of teachers' careers; hence it is important that it should be carried out as frequently as possible. There is wide recognition that teacher education, training and professional development need to be integrated in ways that operationalize lifelong learning for teachers though the resources

allocated to it are usually inadequate and the opportunities too few. More teachers will be willing to engage in professional growth if given training grants. Another problem in continuing professional development is institutional inertia i.e. school culture and teacher relationships. There are needs for more open forum in which teachers of all ages will feel free to participate. It is anticipated that this study will address this issue and suggest what can be done to change the methods of continuing professional development. Therefore, based on the gaps identified, this study sought to determine the factors affecting continuing professional development for teachers of technical and vocational institutions in North-Rift Kenya.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The chapter outlines the methodology, procedures and modalities of data collection. It also covers research design, determination and identification of the population, sample size, sampling procedure, instruments of data collection, validity and reliability of instruments, sources of data, methods of data collection and methods of analyzing the data.

#### **3.2 Research Design**

This study utilized a cross-sectional survey design based on a sample drawn from QUASOs from the Ministry of Higher Education Science and Technology and six selected technical training institutions. The technical training institutions are composed of the following: Eldoret Polytechnic; Rift Valley Technical Training Institute (RVTTI) Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; Rift Valley Technical Training Institute (RVIST) Nakuru and Ol'lessos Technical Training Institute of North Rift region. Cross-sectional survey usually relates to the present state of affairs and involves an attempt to provide a snapshot of how things are at a specific time at which the data is collected (Fraenkel et al, 2000). It also involves the idea of getting out of the chair, going out of the office and purposefully seeking the necessary information 'out there'.

It is often characterized by the selection of random samples from large populations to obtain empirical knowledge of a contemporary nature (Saunders, *et al.*, 2007). This method will allow generalizations to be made about experiences, characteristics, views and attitudes of the entire population being studied. Survey research is capable of collecting background information and hard to find data and the researcher would not have the opportunity to motivate or influence respondents' responses. Sproul (1995) recommends the survey technique for research where attitudes, ideas, comments and public opinion on a problem or issues are studied. The descriptive analysis approach was chosen for the study, because it seeks to gain insight into a phenomenon as a means of providing basic information in an area of study (Bless and Higson-Smith 2000). The cross-sectional survey was adopted in this study based on the conceptual relationship between the independent variable and the dependent variable. Therefore, the research was based on survey data and interviews.

### **3.3 Area of Study**

This study was conducted in public technical & vocational institutions and Quality assurance and standards offices in-charge of technical training institutions within North Rift region. The technical training institutions composed of the following: Eldoret Polytechnic; RVTTI Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; RVIST Nakuru and Ol'lessos Technical Training Institute. The choice of these institutions was guided by their strategic location and their importance/significance in the North Rift region. These institutions have recently experienced tremendous growth and expansion of technical and vocational courses.



QUASOs drawn from district education offices where these technical training institutions are based formed part of the study. In this regard, QUASOs based in Kapsabet town (Covering Ol'lessos Technical Training Institute and Kaiboi Technical Training Institute), Eldoret town (Covering Eldoret Polytechnic and RVTTI Eldoret), Kitale town (Covering Kitale Technical Training Institute) and Nakuru town for RVIST Nakuru were interviewed in this study. The study therefore enabled the researcher to get the true picture of challenges faced by teachers of the various technical training institutions with regard to their continuing professional development.

### **3.4 Target Population**

The term “population” refers to the totality of all objects, subject or members that conform to a set of stipulations (Neuman, 2000). The population refers to the group of study subjects that are similar in one or more ways and which form the subject of the study in a particular survey. The target population for the study is defined as administrators and teachers in the six selected technical training institutions within North Rift region and Quality assurance and standard officers in district education offices where these technical training institutions are based. The technical training institutions are: Eldoret Polytechnic; RVTTI Eldoret; Kaiboi Technical Training Institute; Kitale Technical Training Institute; RVIST Nakuru and Ol'lessos Technical Training Institute. According to the Ministry of Education Science and Technology, there are over forty formal technical institutions in Kenya. The North Rift region covered in this study has six technical institutions with a total teaching and administrative staff of 541. On the other hand, QUASOs drawn from district education offices where these technical training institutions are based formed part of the target population.

This is shown in the table 3.1 below.

**Table 3.1: Target population**

<b>Target population</b>	<b>Frequency</b>
Eldoret Polytechnic	100
RVTTI Eldoret	120
Kaiboi Technical Training Institute	90
Kitale Technical Training Institute	80
RVIST Nakuru	75
Ol'lessos Technical Training Institute	70
Administrators	6
<b>TOTAL</b>	<b>541</b>
Quality Assurance and Standards Officers (QUASOs)	4
<b>GRAND TOTAL</b>	<b>545</b>

(Source: Author, 2011)

### 3.5 Sampling techniques and sample Size

Sampling refers to the technique or procedure the researcher uses in selecting the sample from the population. The major criterion to use when deciding on the sample size is the extent to which the sample's size is representative of the population (Cohen and Marion, 1994). In selecting a sampling procedure, the probability sampling was chosen among the many sampling designs available. Multi stage, census, stratified and simple random sampling were adopted for the study. In the first stage, complete census of teachers in the six technical training institutions were adopted for the study. In the second stage, the population of teachers was stratified according to departments. Stratified random sampling enables the proper identification of the subgroups in the population to be represented in the sample in the same proportion as they exist in the population. In the third stage, after stratifying the target population into different samples, simple random sampling was used to select the teachers since the cases in each stratum are homogenous.

In the final stage, a census technique was used to derive the sample for administrators and QUASOs. Since the target population of the administrators and QUASOs was not large, a complete census was conducted to obtain the respondents. Therefore, samples size of 171 respondents made up of 4 QUASOs, 6 administrators and 161 teachers was selected for the study. The sample covered both gender. According to Ary et al (1972) and Dalen (1979), a sample of between 10-30% of the total population is appropriate for study in the social studies. Therefore the researcher by use of census, stratified and simple random sampling decided to work with 30% of the total population. The procedure is summarized in the table below:-

**Table 3.2 Sample Size**

<b>Distribution</b>	<b>Frequency</b>	<b>Procedure</b>	<b>Sample Size</b>
Eldoret Polytechnic	100	30%	30
RVTTI Eldoret	120	30%	36
Kaiboi Technical Training Institute	90	30%	27
Kitale Technical Training Institute	80	30%	24
RVIST Nakuru	75	30%	23
Ol'lessos Technical Training Institute	70	30%	21
Administrator	6	100%	6
Quality Assurance and Standards Officers	4	100%	4
<b>TOTAL</b>	<b>545</b>		<b>171</b>

(Source: Author, 2011)

### **3.6 Instruments of data collection**

The researcher used the following instruments to collect the data: Questionnaires, Interview schedules and Survey of documented records methods. The choice of these tools was guided by the nature of the data to be collected, the time available as well as the objectives of this study.

### **3.6.1 Questionnaires**

The researcher administered a comprehensive questionnaire with both open and closed ended questions to 161 teachers that cut across six technical training institutions and 6 administrators of technical training institutions in the study area. The closed ended questionnaire was in Likert scale (1-5) as follows; 1 - Strongly agree, 2 – Agree, 3 – Neutral, 4 – Disagree and 5 - Strongly disagree. Questionnaires were used to gain a general picture of the factors affecting continuing professional development of teachers in technical and vocational institutions in Kenya. The questionnaire schedule comprised of questions on personal data (age, gender and level of education). The instrument contained unstructured items that captured opinions, feelings and suggestions of the respondents in the space provided. The questionnaires also contained a number of items which basically solicited for responses pertaining to the research variables. All the questions in the questionnaire were related to the objective of the study and the research questions of the study.

The advantages of the questionnaires are that it generates considerable amount of information that enables the researcher to obtain a wider coverage of descriptive data at a comparatively low cost in terms of time, money and effort. Since it is a standard research instrument, it allows for uniformity in the manner in which questions are asked and makes it possible to be compared across respondents (Cohen and Marion, 1994). The data collected were coded, tabulated, and analyzed using various techniques.

### **3.6.2 Interviews**

An interview is a method of collecting data which involves presentation of oral-verbal

stimuli and reply in terms of oral-verbal responses (Kothari, 2004). Interview method provides for qualitative and in-depth data as it presents opportunity to explain the purpose of the study. It ensures that there is clarification of views and opinions which would not be clearly tackled by the questionnaire. The semi-structured interview questions were conducted for QUASOs of technical and vocational institutions. Most of the questions captured in the questionnaires were used in the interview schedule. Key informant interviews were utilized to collect information regarding the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya.

This helps to guard against distorting the questions since the interviewer could clarify the questions thereby helping the respondent give relevant responses. Interviews are powerful tools for collecting research data because the researcher is able to gain useful insights from what is said and from what is not said and how it is said. An interview assists in getting in-depth data which is not possible to get using questionnaires (Mugenda, 1999). Interview times varied in length from 15 to 30 minutes. The interviews were recorded by note taking.

### **3.6.3 Document analysis**

The researcher used document analysis method to investigate factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. Two main methods were employed for this study. The first was the use of Ministry of Education search engine which covered several databases. The second was to consult Google Scholar (<http://scholar.google.com/>) which covered more publications but was less structured but provided more material. Search terms used included: technical and

vocational institutions and teachers professional development. Information was gathered from various archival research directed mainly at primary documents. Part of the information required was qualitative, e.g. tracing the development of technical and vocational institutions in Kenya, while other parts of the information were statistical, including data on Technical Vocational Education and Training (TVET). The use of quantitative information was mostly to trace the trends in TVET in Kenya. The researcher consulted the following sources for information: published and/or unpublished information: TVET statistics, education journals and periodicals, Ministry of Education reports on TVET, newspapers and magazines.

### **3.7 Reliability and Validity of Research Instruments**

In order to lessen the danger of obtaining inaccurate answer to research questions, emphasis on two particular research designs were considered: reliability and validity (Saunders et al. 2007). Validity is the ability of a chosen instrument to measure what it is supposed to measure. Reliability is the extent to which research results would be stable or consistent if the same technique is repeated. Moreover the way the measuring is conducted and how the information is processed affects the outcome of research (Fraenkel and Wallen, 2000).

#### **3.7.1 Reliability of Research Instruments**

In various areas of study, the accurate dimension of hypothesized variables poses a test by itself. The issue of accuracy of dimension also comes up in applied research, whenever variables are difficult to examine. In most research, reliability and item analysis can be used to construct reliable measurement scales, to improve existing scales,

and to assess the reliability of scales already in use. Specifically, reliability aids in the design and evaluation of sum scales, that is, scales that are made up of multiple individual measurements. The measurement of scale reliability is based on the correlations between the individual items or measurements that make up the scale, relative to the variances of the items.

Cronbach's Alpha is the most common form of internal consistency reliability coefficient. By convention, a lenient cut-off of 0.60 is common in exploratory research; alpha should be at least 0.70 or higher to retain an item in an “adequate” scale; and many researchers require a cut-off of 0.80 for a “good scale.” Regarding the above explanation, in this research the researcher used Cronbach’s alpha to test the reliability of items at the pilot study. After calculating this, the researcher made some changes in order to make the questionnaire reliable and bring the Cronbach’s alpha to minimum 0.70 (Lankshear and Knobel, 2004). Therefore, the calculated results were considered reliable since they yielded a reliability coefficient of 0.70 and above.

### **3.7.2 Validity of Research Instruments**

Validity submits to the degree which a test measures what we actually wish to measure. In this study, the question was whether the individual factors or institutional factors are really affecting the continuing professional development of teachers of technical and vocational institutions in Kenya. Yin’s (1994) solution for assuring construct validity is to use multiple sources of information, to establish a chain of evidence, and to have key informants review the report. Multiple sources of information were used in the form of three kinds of sources: literature review on previous empirical research, primary data in

the form of a comprehensive questionnaire for teachers and administrators of Technical and Vocational institutions and semi-structured interview questions for QUASOs of Technical and vocational institutions in the study area. Establishing chain of evidence was performed in three steps: Literature review, which provided an emerged framework; pilot study, which filled the gap between emerged conceptual framework and later field study and the questionnaire as an instrument of data collection. These findings were validated in statistical studies. In order to perform this technique, content validity was ascertained by comparing the responses of the various respondents. If the responses were the same or almost the same, then the instrument would be reliable otherwise the instrument would be revised and re-tested.

### **3.8 Data Collection Procedures**

Clearance to conduct the research was sought from the School of Education, Department of Technology Education, and University of Eldoret. The permit was used to secure permission from the Ministry of Higher Education, Nairobi to enable the researcher to access to contacts involved in the study. The researcher before collecting data from the participant informed the 6 administrators of technical training institutions of the study area in advance about the study. As for the interviews with QUASOs, the researcher booked appointments with them in advance before the actual dates of interviews. The researcher established good rapport with the respondents before administering the questionnaires to them or conducting the interviews. A letter of introduction stating the purpose of the study was attached to each questionnaire. In addition, the researcher made used of telephone calls to the respective respondents to further explain the purpose of the study and set a time frame for the completion of the questionnaires. The researcher



personally collected the questionnaires from the respondents after three weeks of distribution.

### **3.9 Data Analysis**

The process of analysis began with the coding of the questionnaire into theoretically derived categories focusing on the perceptions of the respondents on the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. Consequently, the researcher worked on the task of developing categories, linkages, relationships and subdividing categories in a manner akin to the approach suggested in the conceptual framework.

Data analysis consists primarily of descriptive statistics procedures and inferential statistics. Data was analyzed and presented through the help of the Statistical Package for the Social Sciences (SPSS) program. Descriptive statistical analysis was utilized to present the primary characteristics of the sample. This includes frequencies and percentages. Further analysis involved calculation of inter-correlations of variables. Inferential statistics were employed to examine the relationships between independent and dependent variables. Correlation coefficient analysis was conducted to determine the relationship between independent variable, and dependent variable as featured in the conceptual framework.

### **3.9 Ethical Considerations**

Permission to carry out the study was sought from the School of Education, Department of Technology Education and University of Eldoret and from the respondents who participated in the study. The nature and the rationale for the study was explained to the

respondents by the researcher. The researcher respected the individuals' rights and safeguarded their personal integrity. In the course of the study, the respondents were assured of anonymity, confidentiality and also of their ability to withdraw from the study at any time if they wished to do so. There were no names or person identification numbers to be reflected on the questionnaires except the numbering and identification of data during data editing.

### **3.10 Summary of the Chapter**

The chapter presented a discussion on methodology that guided the preparation of data instruments, data collection and data analysis. As mentioned above the appropriate research design for this study was descriptive survey. Several sub-topics were presented that included research design, target population, sampling procedures, research validity and reliability and ethical issues.

## **CHAPTER FOUR**

### **DATA ANALYSIS AND INTERPRETATION**

#### **4.1 Introduction**

This chapter focuses on the analysis and interpretation of the collected data. First the data from the two questionnaires (for teachers and administrators) is analyzed and discussed. Following this, is an analysis and interpretation of the qualitative data derived from the interviews with QUASOs of technical and vocational institutions. In this chapter the views and opinions of teachers of technical training institutions, administrators and QUASOs are explored in order to answer the research questions posed in chapter one.

#### **4.2. Analysis and Interpretation of Quantitative and Qualitative Data**

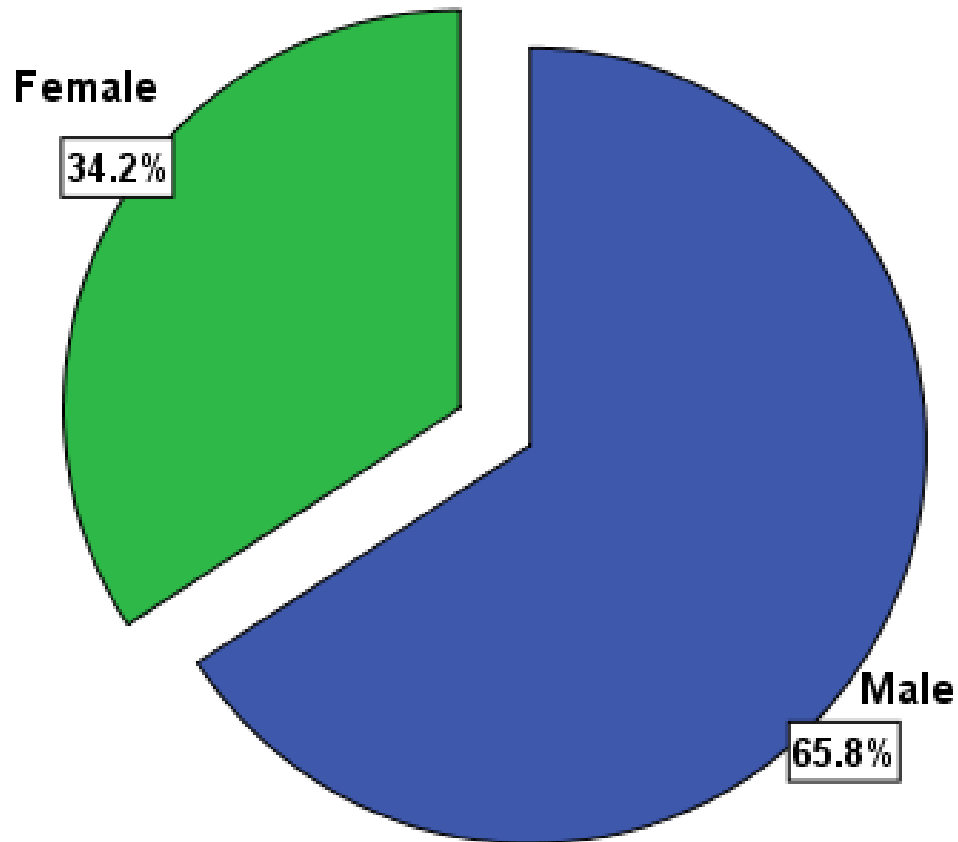
##### **4.2.1. Background Information of the Respondents**

This section provides the finding of demographic questions found in the questionnaire. It focuses on the participants' gender, age distribution, education and years of experience in teaching. Demographic information is crucial, as demographic phenomena affect respondents' social and economic behavior. The information is also vital as it shows a cross section of respondents that participated in the survey. Tables 4.1, 4.2, 4.3 and 4.4 present the descriptive statistics of the demographic characteristics of the respondents.

##### **4.2.1.1. Gender of the Respondents**

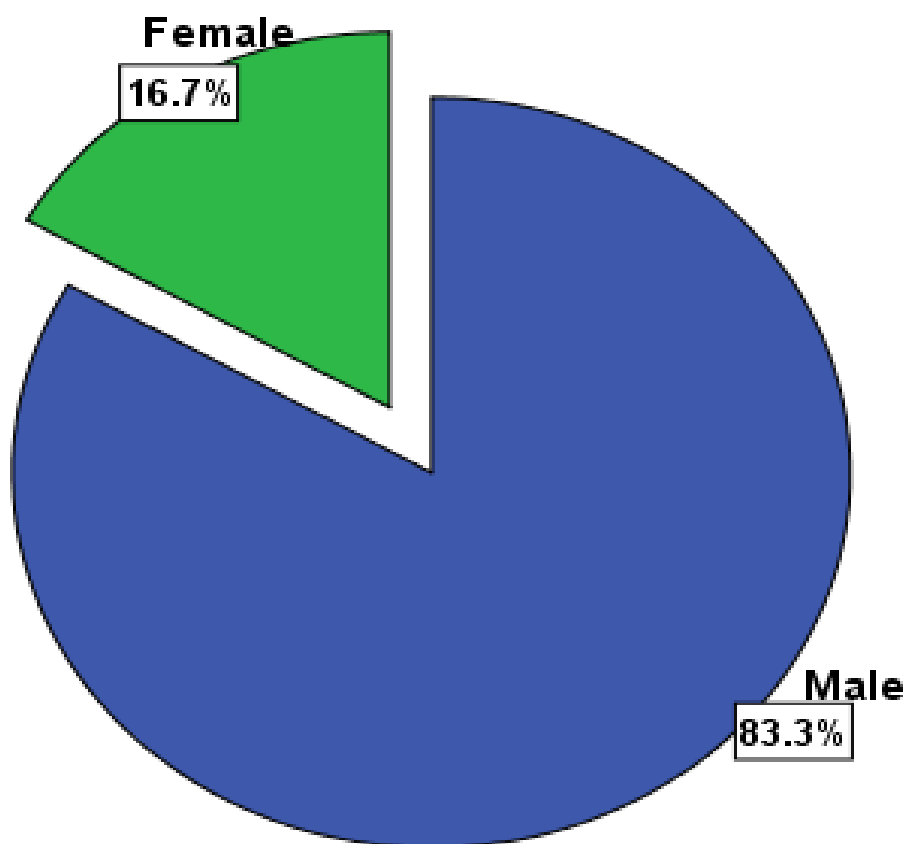
The study found it necessary to determine the gender of the respondents involved in the study. Gender issue in social research is important because male and female have degree of difference and perception determinants on continuing professional development programmes (Hargreaves, 2005). Gender as a variable was categorically operationalized

as male or female, and its respective frequency and percentage calculated



**Figure 4.1 Gender Distribution of teachers of technical and vocational institutions (N=158)**

Figure 4.1 clearly reflects that there were more (65.8%) male teachers of technical and vocational institutions than female counterparts (34.2%). This distribution was also evident of the gender distribution of administrators of technical and vocational institutions. According to figure 4.2, of those who took part in this study, the majority were male (83.3%) and the females were only 16.7%.

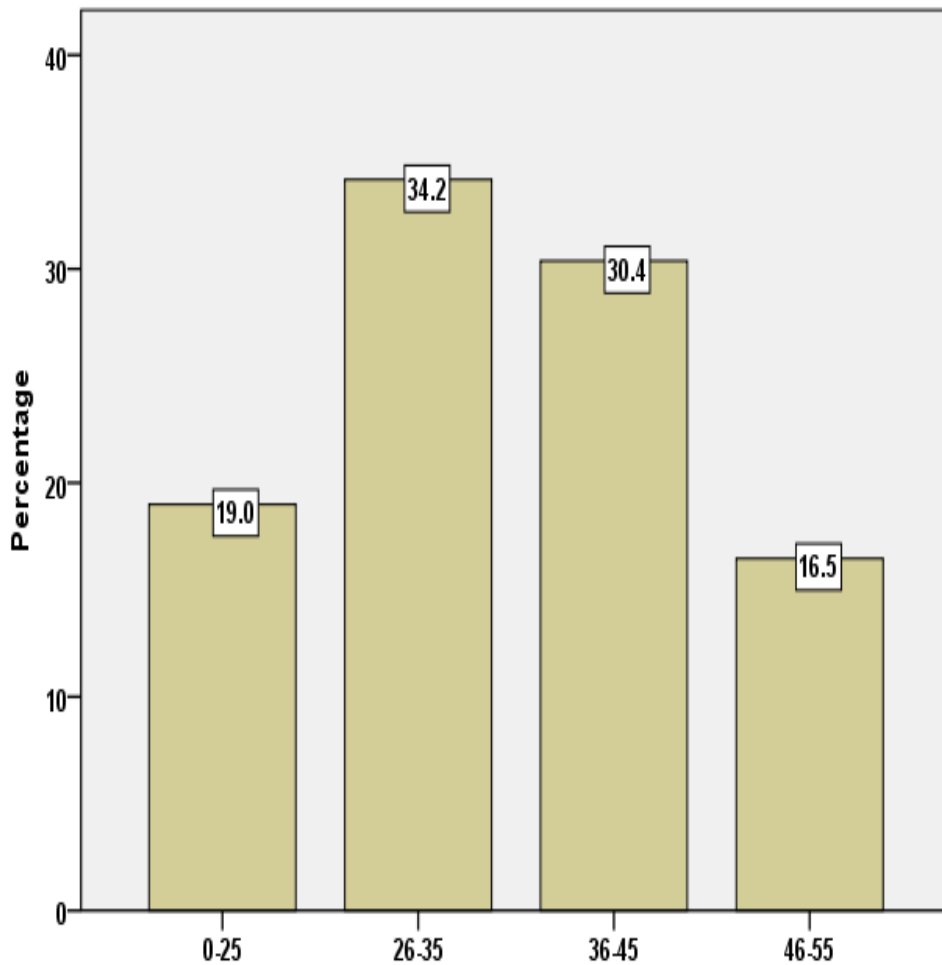


**Figure 4.2 Gender Distribution of Administrators of Technical and Vocational Institutions (N=6)**

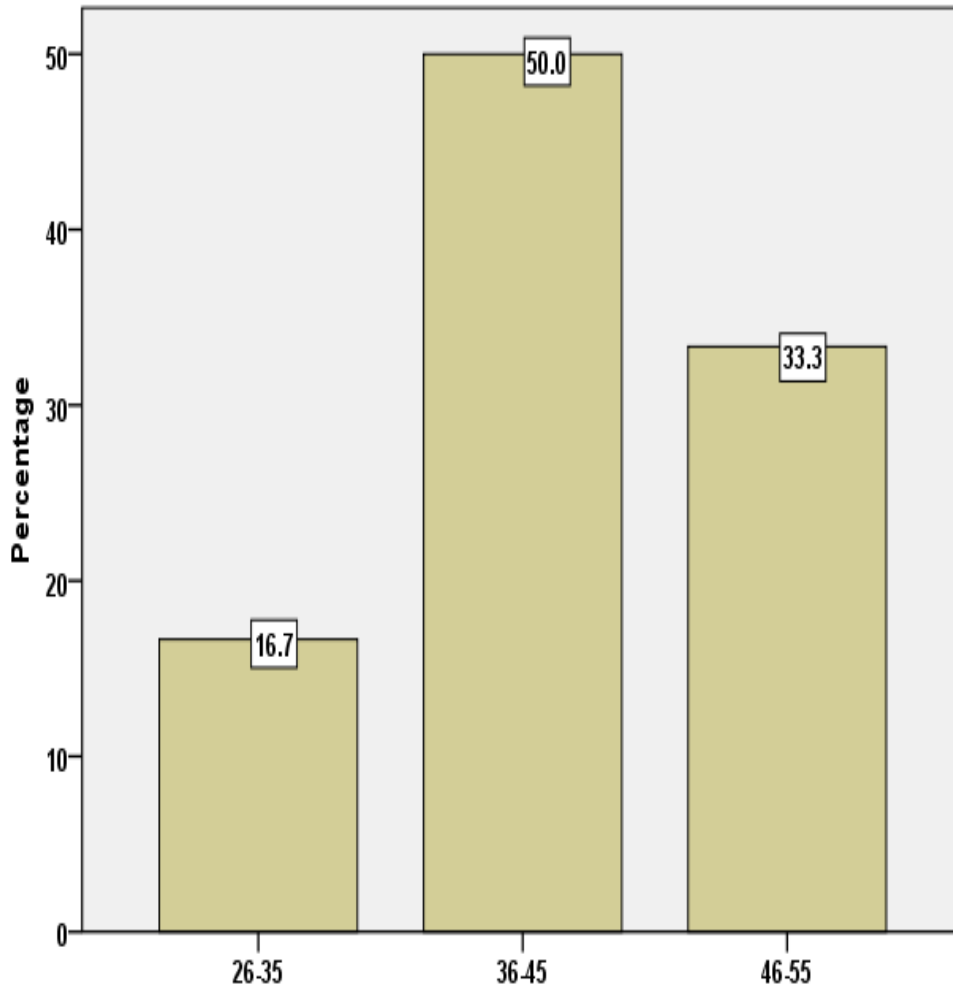
#### **4.2.1.2. Age distribution of the Respondents**

The study sought to establish the most predominant age bracket for the respondents sampled in the study. Age as a variable was operationalized using age brackets. Age of respondents was very important in this study because it enables the study to establish the age group of those respondents who participated in the study. An examination of the questionnaire response pertaining to the age for respondents revealed the data presented in figures 4.3 and 4.4 on page 66 and 67 respectively. These figures showed that the majority of the teachers of technical and vocational institutions fall within the age group of 26-35 years (34.2%) while the majority of the administrators of technical and

vocational institutions fall within the age group of 36-45 years (50%). Figure 4.3 displays a normal distribution curve where the smallest numbers of participants are on either side of the distribution curve. On the contrary, figure 4.4 displays a negatively skewed distribution curve where the smallest number of participants is on the lower side of the distribution curve.



**Figure 4.3: Age distribution of teachers of technical and vocational institutions (N=158)**



**Figure 4.4: Age distribution of Administrators of Technical and Vocational Institutions (N=6)**

#### **4.2.1.3: Level of Education of the Respondents**

The study sought to establish the respondent's level of education. The variable level of participant's education was categorically operationalized using the categories as Diploma, Bachelors Degree, Master Degree and Doctorate Degree. The variable participant's level of education was relevant to the study so as to ascertain whether participant's level of education had any relationship with their perception on factors affecting continuing professional development of teachers of technical and vocational

institutions in Kenya. From the questionnaire responses pertaining to participant's level of education, respective frequencies and percentages were calculated for each category and the results tabulated as shown in table 4.1 and table 4.2 below. These tables indicate that the highest level of education of most teachers of technical and vocational institutions (74.1%) and administrators (66.7%) participating in the study was a Bachelor's Degree level. There were however some teachers of technical and vocational institutions with a diploma level (16.5%) and Masters Degree (9.5%). The rest of the administrators (33.3%) had a Masters Degree level of education.

**Table 4.1: Level of Education of Teachers of Technical and Vocational Institutions (N=158)**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percent</b>
Diploma	26	16.5
Bachelors Degree	117	74.1
Masters Degree	15	9.5
<b>Total</b>	<b>158</b>	<b>100.0</b>

**Source: Field Survey, 2011.**

**Table 4.2: Level of Education of Administrators of Technical and Vocational Institutions (N=6)**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percent</b>
Bachelors Degree	4	66.7
Masters Degree	2	33.3
<b>Total</b>	<b>6</b>	<b>100.0</b>

**Source: Field Survey, 2011.**

#### **4.2.1.4: Experience in Assigned role**

It was necessary to find out the number of years the respondents had worked as teachers



or administrator. This was meant to assist the researcher to ascertain the relationship between level of experience they have had and their perception on factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya.

According to table 4.3, 158 of the targeted 161 teachers of technical and vocational institutions responded to the question relating to experience in teaching. The study indicates that 40.5% of the teachers had an experience of 6-10 years of teaching technical and vocational institutions. Only 16.5% of the participants have had an experience of 16-20 years of teaching in this category.

**Table 4.3: Years of Experience of Teachers in Technical and Vocational Institutions (N=158)**

<b>Years of Experience</b>	<b>Frequency</b>	<b>Percent</b>
0 - 5	30	19.0
6 - 10	64	40.5
11 - 15	38	24.1
16 - 20	26	16.5
<b>Total</b>	<b>158</b>	<b>100.0</b>

(Source: Author, 2011)

According to table 4.4, most administrators (50%) reported having an experience of 6-10 years in administration. Only 16.7% reported having an experience of 0-5years of administration in their current technical and vocational institution.

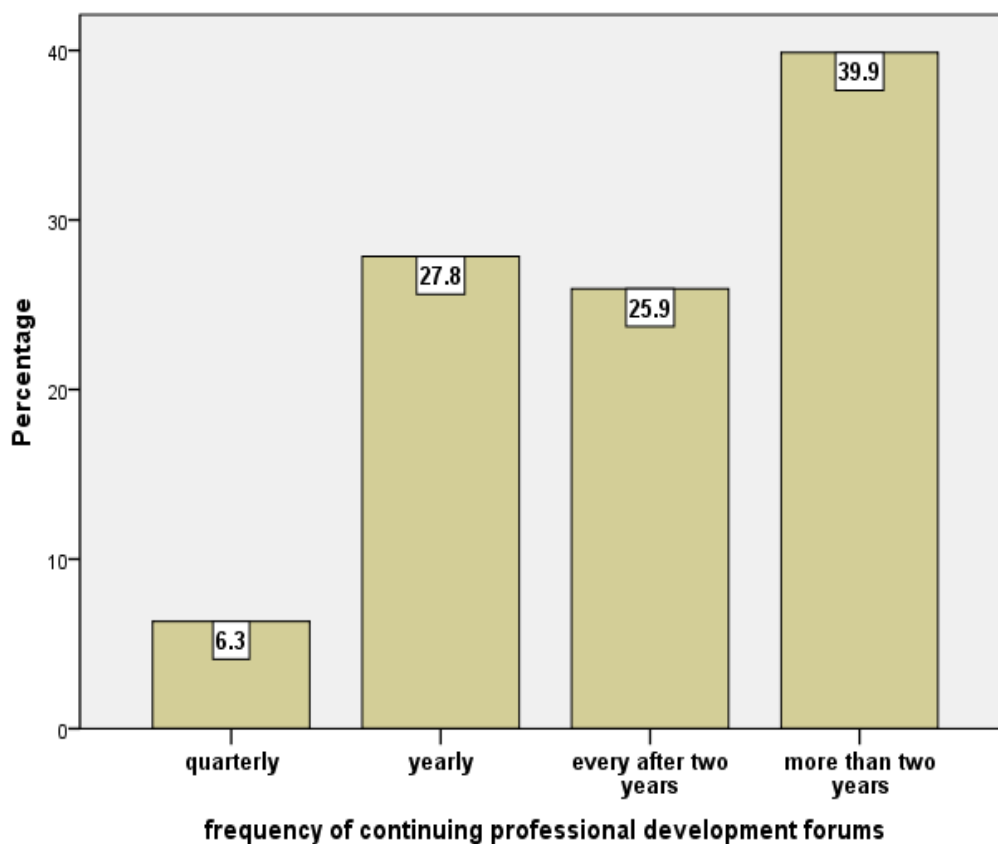
**Table 4.4: Years of Experience in Administration in the current Technical and Vocational Institutions (N=6)**

Years of Experience	Frequency	Percent
0 - 5	1	16.7
6 - 10	3	50.0
11 - 15	2	33.3
<b>Total</b>	<b>6</b>	<b>100.0</b>

(Source: Author, 2011)

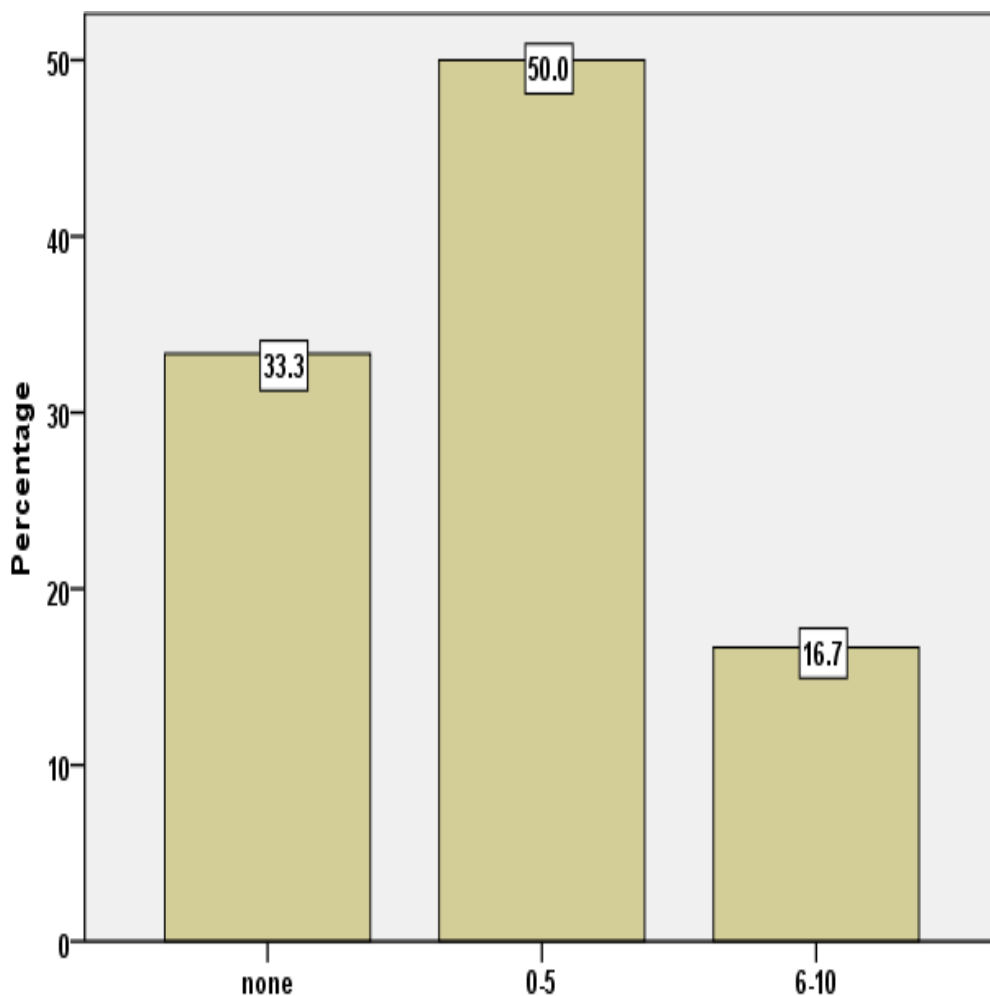
#### 4.3 Frequency of Continuing Professional Development Forums

The first objective of the study sought to find out from teachers and administrators of technical and vocational institutions the frequency of continuing professional development forums. The results are presented in Figure 4.5 and Figure 4.6 respectively.



**Figure 4.5: Frequency of continuing professional development forums as viewed by teachers. (N=158)**

The results indicate the following from the respondents: 39.9% of the participating teachers indicated that professional development forums took more than two years to be held. 25.9% reported that the forums were held after every two years. 27.8% indicated that the forums were held yearly and yet 6.3% indicated that the forums were held quarterly. Figure 4.5 on page 70 provides the summary of the responses as analyzed.



**Figure 4.6: Number of Continuing Professional Development Programmes organized in the past one year as viewed by administrators (N=6)**

This distribution was also evident in the number of continuing professional development

forums as responded by administrators of technical and vocational institutions (figure 4.6). The results from the administrator's questionnaire indicate the following: 50.0% of the administrators indicated that they had organized 0-5 programmes for the past one year. 33.3% indicated that they had organized none in the past one year. 16.7% indicated that they had organized 6-10 programmes in the past one year

#### **4.4 Themes that have so far been addressed by continuing professional development Forums**

The second objective of the study was to identify the themes or issues that had been tackled or addressed by continuing professional development forums. Respondents were required to indicate their agreement on themes or issues that had been tackled during continuing professional development forums. The results are presented in two categories; Teachers of Technical and vocational Institution's perspectives and administrators of Technical and vocational institutions' perspectives.

##### **4.4.1 Perspectives of Teachers of Technical and Vocational Institutions**

The results, as shown in table 4.5 below, indicate the following about those teachers who participated in the study; 15.2% (n=24) agreed that entrepreneur skills had been tackled, while only 3.2% (n=5) strongly agreed. 18.4% (n=29) agreed that ethical issues in business had been tackled. 55.1% (n=87) agreed that methods of teaching had been addressed, while 24.1% (n=38) strongly agreed.

On the current trends in vocational training 41.8% (n=66) agreed that it had been tackled with 45.6% (n=72) indicating that they strongly agreed. 23.4% (n=37) agreed that legal and moral issues had been tackled. 43% (n=68) agreed that current approaches in IT had

been tackled, while 44.3% (n=70) strongly agreed. 17.1% (n=27) agreed that community participation had been tackled, while only 3.2% (n=5) strongly agreed. Only 14.6% (n=23) agreed that social and corporate responsibility issues had been tackled. 14.6% agreed that collaboration and networking had been tackled, while 6.3% (n=10) strongly agreed. 27.8% (n=44) agreed that electronic presentation had been tackled while 17.7% (n=28) strongly agreed. 55.7% (n=88) agreed that HIV/AIDS issues had been tackled while 20.9% (n=33) strongly agreed.

**Table 4.5: Themes that have been addressed by continuing professional development forums as viewed by teachers of Technical and Vocational Institutions (N=158)**

	SD		D		N		A		SA	
	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %
entrepreneur skills	10	6.3%	66	41.8%	53	33.5%	24	15.2%	5	3.2%
ethical issues in business	20	12.7%	53	33.5%	56	35.4%	29	18.4%	0	.0%
methods of teaching	0	.0%	10	6.3%	23	14.6%	87	55.1%	38	24.1%
current trends in vocational training	0	.0%	10	6.3%	10	6.3%	66	41.8%	72	45.6%
legal and moral issues	30	19.0%	43	27.2%	48	30.4%	37	23.4%	0	.0%
current approaches in IT	0	.0%	10	6.3%	10	6.3%	68	43.0%	70	44.3%
community participation	40	25.3%	53	33.5%	33	20.9%	27	17.1%	5	3.2%
social and corporate responsibility	30	19.0%	38	24.1%	67	42.4%	23	14.6%	0	.0%
collaboration and networking	13	8.2%	55	34.8%	57	36.1%	23	14.6%	10	6.3%
electronic presentation	10	6.3%	20	12.7%	56	35.4%	44	27.8%	28	17.7%
HIV/AIDS	10	6.3%	10	6.3%	17	10.8%	88	55.7%	33	20.9%

These results indicate that several CPD issues pertaining to technical and vocational training institutions have been tackled during continuing professional development forums for teachers. However, the key thematic issues covered as identified in the study include: current trends in vocational training; current approaches in IT; methods of teaching and HIV/AIDS.

#### 4.4.2. Perspectives of Administrators of Technical and Vocational Institutions

According to table 4.6 below, eleven themes were reported by administrators as having been addressed during continuing professional development forums for administrators of technical and vocational training institutions.

**Table 4.6: Themes that have been addressed by continuing professional development forums as viewed by administrators of Technical and Vocational Institutions (N=6)**

	SD		D		N		A		SA		Total
	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count
research and development	0	.0%	0	.0%	0	.0%	3	50.0%	3	50.0%	6
business plans	0	.0%	0	.0%	2	33.3%	2	33.3%	2	33.3%	6
budgeting and budgetary controls	0	.0%	0	.0%	2	33.3%	3	50.0%	1	16.7%	6
application of artisan skills	0	.0%	0	.0%	0	.0%	5	83.3%	1	16.7%	6
corporate and social responsibility	0	.0%	0	.0%	0	.0%	4	66.7%	2	33.3%	6
business ethics	0	.0%	0	.0%	1	16.7%	4	66.7%	1	16.7%	6
networking	0	.0%	0	.0%	1	16.7%	3	50.0%	2	33.3%	6
advancement of technical subjects	0	.0%	0	.0%	0	.0%	3	50.0%	3	50.0%	6
administrative and managerial issues	0	.0%	0	.0%	0	.0%	2	33.3%	4	66.7%	6
emerging issues in education	0	.0%	0	.0%	0	.0%	2	33.3%	4	66.7%	6
global trends	0	.0%	0	.0%	0	.0%	3	50.0%	3	50.0%	6

On the basis of the agreements recorded, the key thematic issues identified were as follows; 66.7% (n=4) strongly agreed while 33.3% (n=2) agreed that administrative and management issues were tackled. 66.7% (n=4) strongly agreed, that emerging issues in education had been tackled. 50% (n=3) strongly agreed while the other 50% (n=3) agreed that global trends in education have been tackled. 50% (n=3) strongly agreed, while 50% (n=3) agreed that research and development issues have been tackled. On advancement of technical subjects, 50% (n=3) each strongly agreed or simply agreed that it had been addressed. 66.7% (n=4) agreed while 33.3% (n=2) strongly agreed that corporate and

social responsibility issues had been addressed. Finally, 83.3% (n=5) agreed, while only 16.7% (n=1) strongly agreed that application of artisan skills had been covered.

#### 4.5. Themes that need to be addressed through continuing professional development programmes

The third objective of the study was to identify the themes or issues that teachers of technical and vocational institutions needed to be addressed and could be tackled through continuing professional development programmes. Respondents were asked to indicate their agreement on themes that should be addressed and tackled through continuing professional development programmes. The findings are provided in Table 4.7.

**Table 4.7: Themes that need to be addressed by Continuing Professional Development Programmes as viewed by teachers of Technical and Vocational Institutions (N=158)**

	SD		D		N		A		SA		Total Count
	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	
conducting research in teacher education curriculum	0	.0%	10	6.3%	20	12.7%	76	48.1%	52	32.9%	158
design and develop teacher education curriculum	10	6.3%	0	.0%	10	6.3%	84	53.2%	54	34.2%	158
monitoring and evaluation	0	.0%	10	6.3%	10	6.3%	71	44.9%	67	42.4%	158
designing and developing in-service materials	0	.0%	0	.0%	0	.0%	99	62.7%	59	37.3%	158
E-commerce	10	6.3%	50	31.6%	73	46.2%	25	15.8%	0	.0%	158
E-learning	0	.0%	23	14.6%	0	.0%	75	47.5%	60	38.0%	158
intra and entrepreneurship	0	.0%	15	9.5%	33	20.9%	80	50.6%	30	19.0%	158
leadership and management	0	.0%	0	.0%	23	14.6%	60	38.0%	75	47.5%	158
budgeting and budgetary controls	0	.0%	10	6.3%	10	6.3%	80	50.6%	58	36.7%	158
business plan and projects	0	.0%	30	19.0%	65	41.1%	63	39.9%	0	.0%	158
ICT integration in teaching	0	.0%	0	.0%	0	.0%	64	40.5%	94	59.5%	158

The results as shown in table 4.7 above indicate the following about the teachers who participated in the study; 59.5% (n=94) strongly agreed, while 40.5% (n=64) agreed that ICT integration in teaching needs to be addressed. 47.5% (n=75) strongly agreed, while 38% (n=60) simply agreed that leadership and management should be addressed. While

on monitoring and evaluation, 42.4% (n=67) strongly agreed, 44.9% (n=71) of the participating teachers agreed that it needed to be addressed. 38% (n=60) strongly agreed, while 47.5 % (n=75) agreed that E-learning should be addressed. 36.7% (n=58) strongly agreed, while 50.6% (80) agreed that budgeting and budgetary controls need to be addressed. 37.3% (n=59) strongly agreed, while 62.7% (n=99) agreed that designing and developing in-service materials needs to be addressed. 32.9% (n=52) strongly agreed that conducting research in teacher education curriculum should be addressed while 48.1% of them (n=76) simply agreed. In a nut shell, apart from e-commerce and business plan and projects, at-least 70% of the participating teachers indicated that all the other nine themes needed to be addressed through CPD programmes.

#### **4.6: Major obstacles to Continuing Professional Development of Teachers of Technical and Vocational Institutions**

The fourth and final objective of the study was to establish the major obstacles to continuing professional development of teachers of technical and vocational institutions. The obstacles were categorized into individual teacher factors and institutional factors.

##### **4.6.1 Individual Teacher Factors**

Respondents were asked to indicate their agreement on whether individual factors affected implementation of continuing professional development programmes. The results as shown in table 4.8 on page 77 indicate the following about the participating teachers; only 10.8% (n=17) agreed that gender of the teacher does affect implementation of CPD programmes. 50.6% (n=80) agreed that the age of the teacher does affect implementation of the programmes while 36.7% (n=58) strongly agreed. 41.1% (n=65) agreed that experience of the teacher does affects implementation of CPD programmes



while 39.9% (n=63) strongly agreed.

None of the teachers agreed with marital status and domestic environment of the teacher as factors affecting continuing professional development of teachers. 55.7% (n=88) agreed that the area of specialization affects implementation of the programmes while 44.3% (n=70) strongly agreed. 43.7% (n=69) agreed that influence by colleagues affects implementation of the programmes only 6.3% (n=10) strongly agreed. These results show that the key individual factors that affected continuing professional development of teachers of technical and vocational institutions include: area of specialization, age of the teacher, and the teacher's experience.

**Table 4.8: Individual factors which affect Continuing Professional Development of Teachers of Technical and Vocational Institutions (N=158)**

	SD		D		N		A		SA		Total Count
	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	
gender of the teacher	58	36.7%	73	46.2%	10	6.3%	17	10.8%	0	.0%	158
age of the teacher	0	.0%	0	.0%	20	12.7%	80	50.6%	58	36.7%	158
experience of the teacher	10	6.3%	10	6.3%	10	6.3%	65	41.1%	63	39.9%	158
marital status of the teacher	27	17.1%	88	55.7%	43	27.2%	0	.0%	0	.0%	158
domestic environment	20	12.7%	108	68.4%	30	19.0%	0	.0%	0	.0%	158
area of specialization	0	.0%	0	.0%	0	.0%	88	55.7%	70	44.3%	158
influence by colleagues	15	9.5%	37	23.4%	27	17.1%	69	43.7%	10	6.3%	158

#### 4.6.2. Institutional Factors

Respondents were asked to indicate their agreement on whether institutional factors affected continuing professional development of teachers of technical and vocational institutions. The results as shown in table 4.9 on page 78 indicate the following about the participating teachers. 46.2% (n=73) agreed that availability of finance affects teacher's

continuing professional development while 41.1% (n=65) strongly agreed.

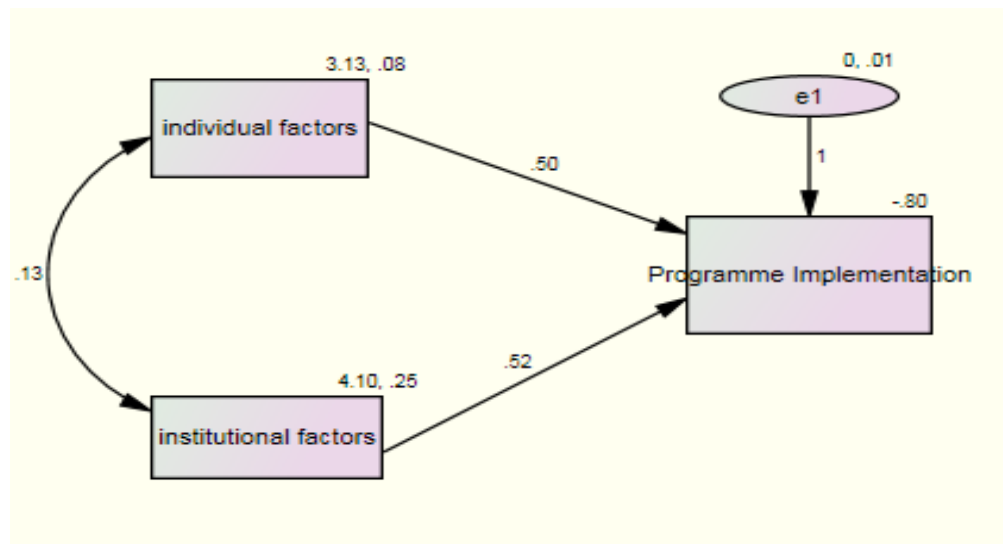
On institutional programmes, 47.5% (n=75) participating teachers agreed that it affected CPD while only 8.2% (n=13) strongly agreed. 47.5% (n=75) agreed that institutional management affect teacher's continuing professional development with 52.5% (n=83) indicating they strongly agreed. 38% (n=60) agreed that the prevailing economic situation affects teacher's CPD with 49.4% (n=78) indicating they strongly agreed. The results show that availability of finance, institutional management, and the prevailing economic situation are the main institutional factors that affect continuing professional development of teachers of technical and vocational institutions.

**Table 4.9: Institutional Factors which affect Continuing Professional Development of Teachers of Technical and Vocational Institutions (N=158)**

	SD		D		N		A		SA		Total
	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count
availability of finance	0	.0%	7	4.4%	13	8.2%	73	46.2%	65	41.1%	158
institutional programmes	10	6.3%	30	19.0%	30	19.0%	75	47.5%	13	8.2%	158
institutional management	0	.0%	0	.0%	0	.0%	75	47.5%	83	52.5%	158
prevailing economic situation	0	.0%	10	6.3%	10	6.3%	60	38.0%	78	49.4%	158

#### **4.7: The effect of individual and institutional factors on continuing professional development of teachers of technical and vocational institutions**

To establish the effect of individual and institutional factors on the continuing professional development of teachers of technical and vocational institutions, a structured equation model in terms of a path diagram was used. The results are presented in Figure 4.7.



(Source: Author, 2011)

**Figure 4.7: Unstandardized Estimates of the model.**

The results as shown summarized in figure 4.7 above indicate the following: There is a very small positive correlation ( $r = 0.13$ ) between individual factors and institutional factors. A unit change in individual factors accounts for 0.50 change in implementation of continuing professional development programmes ( $\beta = 0.50$ ) if individual factors are controlled. The effect of institutional factors is slightly stronger than the effect of individual factors on implementation of continuing professional development programmes ( $\beta_2 > \beta_1$ ). 80% of the variance implementation of continuing professional development programmes is explained by the variance in the two predictor variables (R square = 0.80).

## **4.8 Analysis and interpretation of qualitative data (QUASOs Interviews)**

### **4.8.1 Introduction**

QUASOs of technical and vocational institutions were interviewed to ascertain their

views regarding continuing professional development of teachers of technical and vocational institutions. Below is a presentation of their views.

#### **4.8.2 Performance methods used by the organizers and service providers of continuing professional development programmes and their frequency.**

When asked the performance methods used by the organizers and service providers of continuing professional development programmes, four key methods were identified by the QUASOs. The main method used was reported to be in-service training. In-service training may be in form of school based programmes also called holiday programmes. Pre-service preparation was also identified as a key method used. Other methods reported were workshops, seminars, study leaves and distance education. On frequency of these CPD forums, the QUASOs indicated that it was generally low. For instance, those organized by MOEST was limited to workshops and seminars being used as sensitization forums on such issues as acts of parliament touching on education, performance contracting and generally emerging trends in education. Further, they pointed out that these seminars and workshops targeted the top management of institutions with anticipation that the same would be cascaded to the other staff. Thus for those organized by institutions, the frequency would vary from one institution to another.

#### **4.8.3 Themes that have been addressed by continuing professional development programmes.**

When asked the themes/issues that have been addressed in continuing professional development programmes, four key thematic issues were mentioned. Seventy five percent pointed to ICT skills, research on teacher education curriculum, orientation of teachers on curriculum implementation and emerging trends in education as having been adequately tackled.

#### **4.8.4 Themes that need to be addressed by continuing professional development programmes.**

When asked the themes that need to be addressed by continuing professional development programmes, it was noted that integration of ICT in teaching, research in technical education, in-service training and global trends in technical education have been overlooked and there is need to address them.

#### **4.8.5 Factors affecting continuing professional development of teachers of technical and vocational institutions.**

The QUASOs interviewed identified shortage of funds, budgetary constraints and prevailing economic situation as the main factors affecting Continuing Professional Development of teachers of technical and vocational institutions. They averred that these factors were mostly institutional oriented. Other factors that were cited include; inadequate workshops/seminars; lack of induction courses; and teacher attitude.

#### **4.8.6 Policies to be adopted for effective implementation of CPD for teachers of technical and vocational institutions**

Teachers, administrators and QUASOs suggested adoption of various strategies for effective implementation of continuing professional development programmes for teachers of technical and vocational institutions. Key among the suggested strategies includes; the need for integration of ICT in teaching technical and vocational subjects, Promotion of exchange programmes, Enhancement of in-service education and training for teachers in technical institutions and Provision of study/sabbatical leave for teacher development.

#### **4.9 Summary**

The chapter provided an analysis and interpretation of data collected through questionnaires for teachers and QUASOs' interviews. From the preceding analysis and interpretation of the collected data it can be argued that teachers of technical and vocational institutions are not effectively supported through continuing professional development programmes. This lack of support is related to contextual factors within the institutions as well as inherent in the individual teachers. Examples from the data of contextual factors within the institution are; availability of finance, institutional management, and prevailing economic situation. Individual factors cited include the teacher's area of specialization, the teacher's age, and the teacher's experience.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents a summary of the whole study and discussion of the findings of the study with a view to crystallize the specific findings in relation to the research objectives. The findings are presented complete with their statistics. The conclusion is then drawn based on the findings in order to answer the research questions. In addition, the researcher then provides study recommendations and suggestions for further research derived from the findings on what to be done to identify factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. The following findings were made.

#### **5.2 Summary of the Findings**

The findings of this work has been derived from the study objectives. The data from the quantitative and qualitative analysis is interpreted and discussed in response to the research questions. In retrospect, the study set out to address the following research questions: What is the frequency of continuing professional development forums for teachers of technical and vocational institutions? What themes or issues have been addressed by such continuing professional development forums? What other themes or issues should be addressed through continuing professional development forums and what are the major obstacles to continuing professional development of teachers of technical and vocational institutions? In answering the research questions, the research results are discussed according to the themes identified in chapter four. Findings from the research are mapped against documented results as captured in the literature review.

### **5.2.1 Frequency of continuing professional development forums**

According to responses from teachers of technical and vocational institutions, in figure 4.5, close to 66% of the respondents indicated that it took two and more years for continuing professional development forums to be held. From the administrator's analysis, it is also clear that the frequency of continuing professional development programmes for teachers of technical and vocational institutions was quite low. Fifty percent of the administrators indicated that they had organized 0-5 CPD programmes in the past one year while 33.3% had organized none. This view is shared by the QUASOs who pointed out that the frequency was generally low. These findings are consistent with Smith *et al.*, (2003) that attention given to teacher education and their continuing professional development has in many cases lagged behind that given to other parts of the education system. Some countries lack a policy for teacher professional development, though the importance of teachers is emphasized in many international reports (E.g. UNESCO 1998, UNESCO 2000, and OECD 2001). UNESCO, in its 2001 report, notes that on average countries spend around 1% of their annual education expenditure on continuing professional development of teachers while the business and industry spend 6 percent on staff development.

Frequent continuing professional development programmes play an important role in updating teachers on emerging issues. The finding that continuing professional development programmes were scarce was unfortunate considering the views of Schiefelbein (1992) that long term in-service programmes which attempt to provide teachers with more in-depth and on-going guidance during several years in teaching are



more effective than one-time, short programmes. There is therefore no doubt that continuous training is more effective and therefore highly required.

### **5.2.2 Themes that have so far been tackled by continuing professional development programmes.**

Responses from the questionnaire for teachers of technical and vocational institutions revealed that the few programs conducted for teachers addressed issues on current trends in vocational training; current approaches in IT; methods of teaching; and HIV/AIDS. On the other hand, the programmes conducted for administrators had addressed issues on administrative and management skills; emerging issues in education; global trends in education; research and development in education; advancement of technical subjects; and corporate and social responsibility. QUASOs interviewed pointed to ICT skills, research on teacher education curriculum, orientation of teachers on curriculum implementation and emerging trends in education as having been adequately addressed.

These findings confirm the desire to overcome the skills challenge in TVET. The demand for skilled labour has risen significantly as a result of globalization, changes in technology, organization of work, new development policies, and the recent international financial crises. ILO (2008) in its report notes that in the present environment many observers contend that different individual skills sets are needed. A more complete skills mix incorporates many generic skills such as the ability to think logically, to plan precisely, to anticipate difficulties and to be innovative and creative so as to develop and update the necessary capacities and skills for productive employment and personal fulfillment.

Besides, Allais, Raffe and Young (2009) observed that the concept of competency-based TVET training tends to put more emphasis on the more traditional notion of skills, largely technical in nature, where as many employers place more importance on the overall competence of individuals and especially on their ability to communicate, to solve problems, and to work in teams in addition to technical skills. It is on this back drop that continuing professional development programmes would be expected to among other things examine global drivers of long-term change that bear on the provision of training and skills, a strategic framework that creates bridges between training and the world of work, and the essential building blocks of a robust training strategy.

The findings regarding continuing professional development for administrators of technical and vocational institution were consistent with the views of Gasskor (2006) that greater institutional anatomy helped to inspire motivation and encourages TVET managers and staff to improve their capabilities in order to achieve better results. Operational anatomy for TVET institutions implies that their managers know what they have to do and how to do it if they have to achieve objectives and maintain long-term institutional relevance in a highly competitive environment.

### **5.2.3 Themes that need to be addressed by continuing professional development programmes.**

According to responses for the teachers of technical and vocational institutions in table 4.7, ICT integration in teaching; leadership and management; monitoring and evaluation; e-learning; and research in teacher education curriculum were thematic issues that teachers of technical and vocational institutions would wish to be addressed. On the other hand, based on the responses from the QUASOs, it was noted that integration of ICT in

teaching, research in technical education, in-service training and global trends in technical education have been overlooked and there was need to address them.

Indeed as in general education, continuing professional development, which encompasses but may go beyond in-service training, constitutes a fundamental and increasingly important link in the TVET teacher/trainer learning chain. International Standards on further and in-service education (ILO and UNESCO, 1996; ILO, 2005) stress the necessity, even professional obligation, of such lifelong learning opportunities. These opportunities are meant for all teaching professionals in the interests of education and teaching quality, including the need to integrate the latest educational research into successful programmes, and to empower teachers through financial incentives that will permit them to take advantage of development opportunities.

The relevance of continuing professional development to TVET is accentuated by the technological basis for much of such training, its complexity and constantly evolving nature. Teachers are increasingly required to incorporate ICT techniques in classroom or internet based learning approaches. However, as noted by ILO and UNESCO (2010), there may be good reasons to suspect that continuing professional development constitutes the weakest link in the teacher/trainer learning chain, often ad hoc, with little input from teachers and not linked to career progression nor collaborative networking possibilities.

#### **5.2.4 Major obstacles to teachers' continuing professional development**

The QUASOs interviewed identified shortage of funds, budgetary constraints and prevailing economic situation as the main factors affecting continuing professional development of teachers of technical and vocational institutions. This view was supported by both the teachers and administrators of technical and vocational institutions. The responses from teachers and administrators revealed that there were two categories of factors which tended to affect continuing professional development of teachers; individual factors and institutional factors. Individual factors included area of specialization, age of the teacher, and the teacher's experience. Institutional factors included availability of finance, institutional management, and the prevailing economic situation. Results from the path analysis further indicated that a 1% increase in individual factors would lead to a 0.5% increase in implementation of CPD program for teachers, holding institutional factors constant. Similarly, a 1% change in institutional factors would lead to a 0.52% change in implementation of CPD program for teachers, holding individual factors constant.

The findings regarding availability of finance and the prevailing economic status underscores the key obstacles to continuing professional development of teachers of technical and vocational institutions. Even though public training policies are under pressure to shift towards a greater encouragement of TVET, constraints on public spending make it difficult for the government to finance the training. This occurs in a context where the evidence suggest that TVET is more costly than general education in developed and developing countries alike (Johnson and Adams, 2004; OECD, 2008). The

current economic recession has not made things easier as mounting public deficits and limited fiscal capacity restricts needed investment in TVET along with other levels of education. As reported by UNESCO (2010), at the end of 2009 one forecast estimated a possible loss in funding for education of nearly US\$ 5 billion in the African region through 2010 as a result of slower growth and declining public revenue.

### **5.3 Conclusion**

The study sought to investigate the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. From the findings of the study, the researcher arrived at the following conclusions:

- The frequency of continuing professional development programmes for teachers of technical and vocational institutions was quite low.
- Several issues pertaining to technical and vocational training have been addressed during continuing professional development forums for teachers of technical and vocational institutions. The key thematic issues covered as identified in the study included: current trends in vocational training; current approaches in IT; methods of teaching and HIV/AIDS.
- The themes that need to be addressed by continuing professional development programmes for teachers of technical and vocational training institutions were: ICT integration in teaching; leadership and management; monitoring and evaluation; e-learning; and research in teacher education curriculum.
- The major obstacles to continuing professional development of teachers were of two categories of factors: individual and institutional factors. Individual factors

include area of specialization, age of the teacher, and the teachers experience while institutional factors include availability of finance, institutional management, and the prevailing economic situation.

#### **5.4 Recommendations**

The research focused on the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. The research was conducted in the North Rift region of Kenya. The recommendations presented relate to the specific findings of the study and to a broader policy perspective. Based on the foregoing discussion of the findings and conclusion, this study recommends the following:

- The message for policymakers is that teachers of technical and vocational institutions need considerably more access to professional development if they were to contribute to significant improvements in student achievement, especially because they come into the field without sufficient exposure to knowledge and skills they were expected to pass on to the students. The research is unequivocal that professional development was more effective in changing teachers' practice when it is carried out consistently as long as the teacher is still teaching and allows for the collective participation of teachers. Coupled with this is the need to include opportunities for follow-up activities that make a strong connection between what is learned and how to apply it in the teacher's own context.
- Technical and vocational institutions need well-resourced professional development systems in the country and programs to provide professional development opportunities. Besides, as a way of motivation, these teachers should be paid to attend professional development for longer periods of time.

- Increase in funding for professional development would help to put such professional development systems into place in institutions that do not currently have a comprehensive system. Policymakers should therefore consider whether any increased funding for technical and vocational education could be channeled into expenditures such as benefits that support teachers to better use what they learn in professional development, even if fewer students are served as a result. Obviously, with more funding for teacher preparation and support, the design of professional development could also be more easily changed to offer longer term, more job-embedded models of professional development.
- The government should continue to develop distance education technologies as methods to bring teachers from different programs together for professional development, reducing teacher travel and allowing teachers to participate in learning online. Such online learning opportunities may be the only type of professional development activities readily accessible to teachers from small, geographically isolated areas across the country. However, professional development planners need to ensure that teacher collegiality can still be an essential feature of such distance professional development. Hybrid or “blended” distance professional development models (in which one part is face-to-face or conference call and the rest is online) hold promise for reaching teachers of Technical and vocational institutions with effective professional development initiatives.

- The institutional context is where teachers spend most of their professional time and lives; hence, it becomes incumbent upon institutions to make the workplace environment conducive to meaningful learning and development of the teachers they employ. Based on the findings from the study, it is recommended that technical and vocational institutions reconsider their “man-power” development policies in order to support teachers and sustain their continuing professional development through retention of expertise.
- While it may not be practically possible for technical and vocational institutions to attend to individual needs, they could provide space and time within the institution for teachers to voluntarily set up autonomous professional sub-communities based on mutual work interests. A community of practitioners is best placed within their community of practice so that learning can possibly occur within the context where it will be practiced and with focus on the improvement of the immediate context.
- Professional development programmes for teachers should have stronger ties with the sites of teacher training. There is need for regular inspection of the outcomes of in-service training programmes, primarily involving post-programme assessment of teacher competences that a given course intended to improve.

### **5.5 Suggestion for further study**

The research focused on the factors affecting continuing professional development of teachers of technical and vocational institutions in Kenya. Continuing Professional Development is such a wide area that could not have been fully exhausted in a single study such as the present study. This study therefore recommends the following:-



- There is need for more research that helps us understand the relationships among student achievement, professional development, and such factors as teachers' backgrounds and working conditions. Such information can guide decisions about the design and funding of teacher preparation and support.
- Further research on the effectiveness of professional development in supporting student achievement in technical and vocational institutions is needed. Research about the relationship between teacher preparation and teacher quality would be particularly important in standards-based reform situations.
- Similar studies on a broader scale that covers more regions in Kenya should be conducted to give an idea of what is obtainable in other parts of the country and the world. Studies should also be carried out to ascertain whether there are other factors that affect teachers' effectiveness on the job aside from academic and professional training.

## REFERENCES

- Anderson, L. W. (2004). *Increasing teacher effectiveness* [webpage]. UNESCO, International Institute for Educational Planning. Retrieved June 2006, from the World Wide Web: [http://www.wisis.unam.na/fulltext/wanderson\\_web.pdf](http://www.wisis.unam.na/fulltext/wanderson_web.pdf)
- Allais, s; Raffe, D; Young, M. (2009). Researching NQFs: Some conceptual issues, Employment working paper No. 44 (Geneva, ILO)
- Ary, D, Jacobs, L., & Razavieh, A. (2002). Introduction to research in Education (6<sup>th</sup> ed). Belmont, CA: wadsworth/Thomson Learning.
- Bitan-Friedlander, N., Dreyfus, A., & Milgrom, Z. (2004). Types of “teachers in training”: the reactions of primary school science teachers when confronted with the task of implementing an innovation. *Teaching & Teacher Education*, 20, 607-619.
- Bless, C. & Higson-Smith, C. (2000). *Fundamentals of social research methods: an African Perspective*. Juta education, (Pty) Ltd
- Borg, S. (2001). Self-perception and practice in teaching grammar. *ELT Journal*, 55(1), 21-29.
- Clarke, D., and Hollingsworth, H. (2002). Elaborating a model of teacher professional growth. *Teaching & Teacher Education*, 18(8), 947-967.
- Clark, C. M., and Peterson, P. L. (1986). Teachers' thought processes. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed.). New York: Macmillan.
- Cohen, L. and Marion, L. (1994) *Research Methods in Education*. London, Routledge
- Collinson, V. (1996, February). *Staff development through inquiry: Opening a Pandora's box of teacher beliefs*. Paper presented at the annual meeting of the Association of Teacher Educators, St. Louis, MO.
- Dam, G. ten and Blom, S. (2006). Learning through participation. The potential of school-based teacher education for developing a professional identity. *Teaching and Teacher Education*, 22, 647-660.
- Darling-Hammond, L. (1999). *Teacher Quality and Student Achievement: A Review of State Policy Evidence*. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington
- Davies, L. (1993) ‘Teachers as implementers or subversives’, *International Journal of Educational Development*, 13:161-170.

- Day, C. & Sachs, J. (Eds.). (2004). *International handbook on the continuing professional development of teachers*. England: Open University Press.
- European Commission (2005). *Key Data on Education in Europe 2005*. Luxembourg: Office for Official Publications of the European Communities.
- European Commission (2009). *Key Data on Education in Europe*. Luxembourg: Office for Official Publications of the European Communities.
- Eurydice (2003). *Key Topics in Education in Europe. Volume 3. The teaching profession in Europe: profile, trends and concerns. Report III: Working conditions and pay*. Brussels: Eurydice.
- Eurydice (2007). *School Autonomy in Europe: Policies and Measures*. Brussels: Eurydice.
- Eurydice (2008). *Levels of Autonomy and Responsibilities of Teachers in Europe*. Brussels: Eurydice.
- Fraenkel, J. & Wallen, N. (2000). *How to design and Evaluate Research in Education*. Boston, MA: McGraw-Hill.
- Freeman, D. (2002). The hidden side of the work: teacher knowledge and learning to teach. *Language Teaching*, 35, 1-13.
- Freeman, D. (2001). Second language teacher education. In R. Carter & D. Nunan (Eds.), *The Cambridge guide to teaching English to speakers of other languages*. Cambridge: Cambridge University Press.
- Gasskor, V. (2006). *Vocational education and training institutions – A management handbook* (Geneva, ILO).
- Government of Kenya: (1984, 2002, 2005, 2010). *The Kenya Education Report*  
Nairobi: Government Printers
- Hargreaves, A. (2005). Educational change takes ages: life, career and generational factors in teachers' emotional responses to educational change. *Teaching & Teacher Education*, 21, 967-983.
- Hativa, N., & Goodyear, P. (2002). Research on teacher thinking, beliefs and knowledge in higher education: foundations, status and prospects. In N. Hativa & P. Goodyear (Eds.), *Teacher thinking, beliefs and knowledge in higher education*. Dordrecht: Kluwer academic publishers.
- ILO- UNESCO, (1966). Recommendation concerning the status of teachers (Paris and Geneva), [www.ilo.org/public/English/dialogue/sector/techmeet/ceart/teache.pdf](http://www.ilo.org/public/English/dialogue/sector/techmeet/ceart/teache.pdf) (accessed 6<sup>th</sup> Aug. 2011).

- ILO (2005) Global report under the follow up to ILO Declaration on Fundamental Principles and Rights at work 2005. Geneva June 2005 (Geneva).
- ILO 2008 Conclusions on skills for improved production of employment growth and development, International Labour Conference, 97th session, Geneva June 2008 (Geneva).
- ILO- UNESCO, (2010). Joint ILO-UNESCO Committee of Experts on the Application of the Recommendations concerning teaching personnel: Report, Tenth session, Paris, 28 September -2 October 2009 (Paris)
- James, P. (2001). *Teachers in action: tasks for in-service language teacher education and development*. Cambridge, UK; New York: Cambridge University Press.
- Johnson, R.K., Adams, A. (2004), *Skills Development in Sub-Saharan Africa* (Washington, D.C, World Bank).
- Kagan, D. M. (1992). Implications of research on teacher belief. *Educational Psychologist*, 27(1), 65-90.
- Karavas-Doukas, K. (1998). Evaluating the implementation of educational innovations: lessons from the past. In P. Rea-Dickins & K. P. Germaine (Eds.), *Managing evaluation and innovation in language teaching*: Longman.
- Koech Commission (1999). A report of the commission of inquiry into education system of Kenya in 1999, Nairobi: Government Printers
- Kothari, C. R. (2004). *Research Methodology: Methods & Techniques*. Delhi: New Age International Publishers.
- Lamie, J. (2004). Presenting a model of change. *Language Teaching Research*, 8(2), 115-142.
- Lange, D. (1990). A blueprint for a teacher development programme. In J. C. Richards and D. Nunan (Eds.), *Second language teacher education*. Cambridge: Cambridge University Press.
- Lankshear, C. & Knobel, M. 2004. *A Handbook for Teacher Research: From Design to Implementation*. New York: Open University Press.
- Mann, S. (2005). The language teachers development. *Language Teaching*, 38 (3), 103-118.
- Markee, N. (2001). The diffusion of innovation in language teaching. In D. R. a. H. Hall, A (Ed.), *Innovation in English language teaching*. London: Routledge.

- Maslow, A.H. (1943) 'A theory of human motivation', *Psychological Review*, 50:379-396.
- McGinn, N., and Borden, A. (1995). *Framing questions, constructing answers. Linking research with education policy in developing countries*. Cambridge, MA: Harvard Institute for International Development.
- Miller, E. (1998). The old model of staff development survives in a world where everything else has changed. In R. Tovey (Ed.), *Professional Development* (Vol. Harvard education letter focus series 4). Cambridge: Harvard Education Letter.
- MOE (2005) *Reform Agenda for Education sector in Kenya, Setting Beacons for policy and legislative framework*, Nairobi . AAK.
- Mugenda, O., & Mugenda, A., (2003). *Research Methods: Quantitative & Qualitative Approaches*. Nairobi: Acts Press.
- Neuman, W. Lawrence. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. Fourth Edition. Boston.
- OECD (1998). *OECD-INES survey on the Locus of Decision-making in Education*. Paris: OECD.
- Organization for Economic Cooperation and Development (OECD), (2001). *Education Policy Analysis 2001: Centre for Education Research and Innovation*. Paris: OECD
- OECD (2005). *Teachers Matter: Attracting, developing and retaining effective teachers*. Paris: OECD.
- Organization for Economic Co-operation and Development (OECD). (2008). *Education at a Glance 2008: OECD indicators* (Paris).
- Prawat, R.S. (1992). Teachers' beliefs about teaching and learning: A Constructivist Perspective. *American Journal of Education*, 100(3), 354-395.
- Randall, M., and Thornton, B. (2001). *Advising and supporting teachers*. Cambridge: Cambridge University Press.
- Richards, J. C., Gallo, P. B., and Renandya, W. A. (2001). Exploring teachers' beliefs and the processes of change. *The PAC Journal*, 1(1), 41-62.
- Richards, J. C., and Farrell, T. S. C. (2005). *Professional development for language teachers*. Cambridge: Cambridge University Press.
- Richardson, V. and Placier, P. (2001). Teacher change. In V. Richardson (ed.), *Handbook of research on teaching*, 905-947. Washington D.C: American Educational

Research Association.

Rivkin, S.G., Hanushek E.A. and Kain J.F. (2005), "Teachers, Schools, and Academic Achievement", *Econometrica*, Vol. 73, No. 2, pp. 417–458,

Robb, L. (2000). *Redefining staff development*. Portsmouth: Heinemann.

Sandholtz, J. (2002). In service training or professional development: contrasting opportunities in a school/university partnership. *Teaching & Teacher Education*, 18, 815- 830.

Saunders, M., Lewis, P. & Thornhill, A. (2007). *Research methods for business for Students: 4<sup>th</sup> edition*. Pearson Education Limited Artes Graficas.

Schieffelbein, E. (1992). *Redefining basic education for Latin America: Lessons to be learned from the Colombian Escuela Nueva*. Paris: International Institute of Educational Planning.

Senge, P., Kleiner, A., Cambron-McCabe, N., Smith, B., & Lucas, T. (2000). *Schools that learn: a fifth discipline fieldbook for parents, educators, and everyone who cares about education*: Double Day.

Smith, C., Hofer, J., Gillespie, M., Solomon, M., & Rowe, K. (2003). *How teachers change: A study of professional development in adult education* (NCSALL Rep. No. 25). Boston: National Center for the Study of Adult Learning and Literacy.

Sproul .N. (1995) *Handbook of research methods A guide for practitioners and students in social sciences 2<sup>nd</sup> edition* Metuchen Scare Crow

Teacher's professional development, (2010): Office for Official Publications of the European Union, Luxembourg

UNESCO, (1998). *World Education Report: Teachers and Teaching in a Changing World*. Paris: UNESCO.

UNESCO, (2000). *The Dakar Framework for Action. Education for All: Meeting our Collective Commitments*. Paris: UNESCO

UNESCO, (2001). *Teacher Education through Distance Learning*. Paris: UNESCO

UNESCO, (2002). *Information and Communication Technologies in Teacher Education: A planning Guide*. Paris: UNESCO

UNESCO, (2010). *Global monitoring Report: Education for all*. Paris: UNESCO

Wilson, B., and Corbett, D. (2001). Adult basic education and professional development: Strangers for too long. *Focus on Basics*, 4(D), 25–26

- Wilson, R. (2000). Teacher development: an opportunity for cross-cultural cooperation. *ELT Journal*, 54(1), 65-71.
- Wolter, B. (2000). A participant-centered approach to INSET course design. *ELT Journal*, 54(4), 311-318.
- Yin, R. K. (1994) *Case Study Research: Design and Methods*. New York: Sage Publications

## **APPENDICES**

### **APPENDIX I: INFORMED CONSENT LETTER**

I am a postgraduate student of School of Education, Department of Technology Education, University of Eldoret conducting research on “factors affecting the continuing professional development of teachers of technical and vocational institutions in Kenya: a case of North Rift Region of Kenya”. I kindly request you to answer the questions below. All responses will be handled confidentially and will be used only for this study. This questionnaire therefore is to help me collect information from you for purely academic purpose.

You are therefore kindly requested to participate and respond as best as you can to items in the questionnaire. The information provided will be treated with utmost confidentiality and will be used only for the purpose of this study.

Let me take this opportunity to thank you in advance for taking part in this study.

Yours sincerely,

**KIPKEMBOI PATRICK TOROREI**

EDU/ PGT/ 08/ 07





**SECTION III: SPECIFIC RESEARCH QUESTIONS**

**1.** To what extent do you agree that the following is the frequency of continuing professional development forums in your institution?

5 – Strongly agree, 4 – agree, 3 – neutral, 2 – disagree and 1 – strongly disagree

Monthly	5	4	3	2	1
Quarterly	5	4	3	2	1
Yearly	5	4	3	2	1
Two years	5	4	3	2	1
More than two years	5	4	3	2	1

**2.** To what extent do you agree that the following are the themes or issues that have been tackled during continuing professional development forums for teachers of technical and vocational institutions?

5 – Strongly agree, 4 – agree, 3 – neutral, 2 – disagree and 1 – strongly disagree

Entrepreneur skills	5	4	3	2	1
Methods of teaching	5	4	3	2	1
Ethical issues in business	5	4	3	2	1
Current trends in vocational training	5	4	3	2	1
Legal and moral issues	5	4	3	2	1
Current approaches in IT	5	4	3	2	1
Community participation	5	4	3	2	1
Social and corporate responsibility	5	4	3	2	1
Collaboration and networking	5	4	3	2	1
Electronic presentation	5	4	3	2	1
HIV/AIDS	5	4	3	2	1

Any other specify.....

**3.** To what extent do you agree that the following themes and issues concerning teachers in technical and vocational institutions need to be addressed during continuing professional development?

5 – Strongly agree, 4 – agree, 3 – neutral, 2 – disagree and 1 – strongly disagree

Conducting research in teacher Education curriculum	5	4	3	2	1
Design and develop teacher education curriculum	5	4	3	2	1
Monitoring and evaluation	5	4	3	2	1
Designing and developing in-service materials	5	4	3	2	1
E-commerce	5	4	3	2	1
E-learning	5	4	3	2	1
Intra and Entrepreneurship	5	4	3	2	1
Leadership and management	5	4	3	2	1
Budgeting and budgetary control	5	4	3	2	1
Business plan and projects	5	4	3	2	1
ICT Integration in Teaching and learning	5	4	3	2	1
Any other specify.....					

**4.** To what extent do you agree that the following are the individual factors which affect continuing professional development of teachers of technical and vocational institutions in your area?

5 – Strongly agree, 4 – agree, 3 – neutral, 2 – disagree and 1 – strongly disagree

Gender of the teachers	5	4	3	2	1
Age of the teachers	5	4	3	2	1
Experience of the teachers	5	4	3	2	1
Marital status	5	4	3	2	1
Domestic environment	5	4	3	2	1
Area of Specialization	5	4	3	2	1
Influence by Colleagues	5	4	3	2	1
Any other specify.....					

**5.** To what extent do you agree that the following are the institutional factors which affect continuing professional development of teachers of technical and vocational institutions in your area?

5 – Strongly agree, 4 – agree, 3 – neutral, 2 – disagree and 1 – strongly disagree

Availability of finance in the institution	5	4	3	2	1
Programme in the institution	5	4	3	2	1
Management of the institution	5	4	3	2	1
The prevailing economic situation	5	4	3	2	1
Any other specify.....					

**6.** Which policies do you suggest to be adopted by your institution to enhance continuing professional development of teachers of technical and vocational institutions in your area?

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**SECTION B: SPECIFIC RESEARCH QUESTIONS**

**1.** How many continuing professional development programmes for teachers of technical and vocational institutions have you organized in your institution for the past one year?

None	<input type="checkbox"/>	10- 5	<input type="checkbox"/>
6-10	<input type="checkbox"/>	11-15	<input type="checkbox"/>
16-20	<input type="checkbox"/>	Above 20	<input type="checkbox"/>

**2.** To what extent do you agree that the following are the themes or issues that have been tackled during continuing professional development forums for teachers of technical and vocational institutions?

5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree and 1 – Strongly Disagree

Research and development	5	4	3	2	1
Business plans	5	4	3	2	1
Budgeting and budgetary control	5	4	3	2	1
Application of artisans skills	5	4	3	2	1
Corporate and social responsibility issues	5	4	3	2	1
Business ethics	5	4	3	2	1
Networking	5	4	3	2	1
Advancement of technical subjects	5	4	3	2	1
Administrative and managerial issues	5	4	3	2	1
Emerging issues (new constitution)	5	4	3	2	1
Global trends	5	4	3	2	1

Any other specify.....

**3.** To what extent do you agree that the following are the individual factors which affect continuing professional development of teachers of technical and vocational institutions in your area?

5 – Strongly Agree, 4 – Agree, 3 – Neutral, 2 – Disagree and 1 – Strongly Disagree

Gender of the teachers	5	4	3	2	1
Age of the teachers	5	4	3	2	1

Experience of the teachers	5	4	3	2	1
Marital status	5	4	3	2	1
Domestic environment	5	4	3	2	1
Area of Specialization	5	4	3	2	1
Influence by Colleagues	5	4	3	2	1
Any other specify.....					

**4.** To what extent do you agree that the following are the institutional factors which affect continuing professional development of teachers of technical and vocational institutions in your area?

Availability of finance in the institution	5	4	3	2	1
Programme in the institution	5	4	3	2	1
Management of the institution	5	4	3	2	1
The prevailing economic situation	5	4	3	2	1
Any other specify.....					

**5.** Which policies do you suggest to be adopted by your institution to enhance continuing professional development of teachers of technical and vocational institutions?

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**APPENDIX IV: INTERVIEW SCHEDULE FOR QUALITY ASSURANCE AND STANDARDS OFFICERS OF TECHNICAL AND VOCATIONAL INSTITUTIONS**

**1.** How many technical and vocational institutions are found in your area?

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**2.** How many teachers do you have in technical and vocational institutions found in your area?

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**3.** Do you encourage administrators in technical and vocational institutions in your area to organize for continuing professional development programmes for teachers?

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**4.** Which performance methods are used by the organizers and service providers of continuing professional development programme to pass knowledge to the teachers of technical and vocational institutions in your area? How frequent are these methods?

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**5.** What themes or issues have so far been tackled or addressed in such continuing professional development programmes?

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**6.** What themes and issues of continuing professional development of teachers of technical and vocational institutions have been overlooked and need to be tackled?

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**7.** Which factors do you think affect continuing professional development of teachers of technical and vocational institutions?

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**8.** Which policies do you suggest to be adopted for effective implementation of continuing professional development programmes of teachers of technical and vocational institutions?

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End

**APPENDIX V: MAP OF KENYA SHOWING RIFT VALLEY PROVINCE**

