

**EFFECTS OF TECHNICAL AND VOCATIONAL EDUCATION
AND TRAINING (TVET) ON SOCIO- ECONOMIC
DEVELOPMENT IN KENYA: STUDENTS' PERCEPTIONS**

By

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Award of the Degree of Doctor of Philosophy in Education**

University of Nairobi




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DECLARATION

ACKNOWLEDGEMENT

This thesis research is my original work and has not been presented to any other university for examination or award of any other degree.

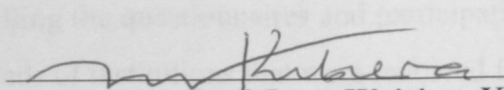


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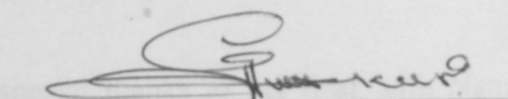
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DEDICATION

This study is dedicated to my beloved wife Nancy, daughters Mercy Dana, Sophie Dana, Blessing Dana and my dear parents Joseph Gakunga Njuguna and Leah Mumbi Gakunga for their continued support in my pursuit of academic achievements. God bless you all.

ABSTRACT

The purpose of this study was to investigate the extent to which contextual, learner and institutional factors influenced students' perceptions of Technical and Vocational Education and Training (TVET) programmes on socio-economic development in Kenya. The study focused mainly on the perceived contribution of TVET programmes in the production of skilled human resource and their contribution towards socio-economic development in Kenya. The study identified five research objectives, and five hypotheses to guide data collection and analysis.

The study design was mixed method including descriptive survey and regression analysis. The research was conducted among students and lecturers in selected public and private TVET institutions in Kenya, selected industries and government ministries. These institutions were randomly sampled across the country and effort was made to ensure that the whole country was represented.

The review of related literature covered three main themes, namely; contextual factors, learner factors and institutional factors that addressed the objectives of the study. Other relevant literature to this study included an overview of the development of TVET programmes in developing countries with special emphasis in Africa, development of TVET in Kenya since independence (1963), and policies on TVET in Kenya and especially in light of Kenya's Vision 2030. All this was reviewed with the aim of specifying the knowledge gaps that the study needed to be filled.

Data was collected by use of the questionnaire as the major research instrument. This was further supplemented by interview schedules and documentary review. The research findings were analyzed, both quantitatively and qualitatively. The quantitative data was processed and analyzed with the help of the SPSS software programme and summarized into frequency tables and percentages. Qualitative data was subjected to content analysis from which relevant information was extracted. The hypotheses were tested using 0.05 percent level of significance for regression analysis. The study tested 5 hypotheses.

The analysis and findings based on hypothesis 1 revealed that students' perceptions towards the role of TVET programmes on socio-economic development were significant. However, results based on analysis of hypotheses 2 and 3 on contextual factors and learner factors revealed that contextual and learner factors did not have significant influence on students' perceptions on the role of TVET programmes on socio-economic development. The analysis of hypothesis 4 however indicated that institutional factors had significant influence on students' perceptions on the role of TVET programmes towards socio-economic development in Kenya. Finally analysis of hypothesis 5 on the combined effects of contextual, learner and institutional factors

showed that they had a significant influence on students' perceptions with regard to TVET programmes effect on socio-economic development.

Overall, therefore, the results pointed out that TVET programmes were perceived to have positive influence on socio-economic development in Kenya. In light of these findings, the study recommended that a tracer study on the extent to which TVET graduates use knowledge and skills acquired during training; this same study should examine their level of innovativeness and creativity in relation to socio-economic development. Further, the study recommended that other related learner and contextual factors on students' perception on TVET programmes on socio-economic development such as learner academic achievement, family income, job aspirations and peer influence should be assessed in order to verify if these factors also influence learners' perceptions towards the role of TVET programmes on socio-economic development.

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BEA	Bureau of Education Assessment
BEQA	Bureau of Education Quality Assurance
DET	Directorate of Technical Education
ISAT	Institute of Science and Technology
ITE	Institute of Technical Education
KESSE	Kenya Education Sector Support Programme
KEJC	Kenya Polytechnic University College
KTTC	Kenya Technical Teachers College
LICs	Local Industrializing Companies
MEP	Ministry of Education
MHESST	Ministry of Higher Education Science and Technology
MICs	Medium Industrial Companies
MOE	Ministry of Education
MPED	Ministry of Planning and Economic Development
MPUC	Mombasa Polytechnic University College
NICs	Newly industrialized Country
NTC	National Trade Certificate
PGDE	Post Graduate Diploma in Education
TE	Technical Education
TTTCT	Technical, Technical, Vocational and Entrepreneurship Training
TTIs	Technical Training Institutes
TVE	Technical and Vocational Education
TVET	Technical and Vocational Education and Training
TVE	Technical and Vocational Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
VITA	Vocational and Industrial Training Board
VTE	Vocational Technical Education
VTET	Vocational, Technical Education and Training

LIST OF ABBREVIATIONS AND ACRONYMS

ACTCVE	Adult, Continuing, Technical and Vocational Education
BEd	Bachelor of Education
DTAQA	Directorate of Technical Accreditation and Quality Assurance
DTE	Directorate of Technical Education
IS&T	Institutes of Science and Technology
ITE	Institute of Technical Education
KESSP	Kenya Education Sector Support Programme
KPUC	Kenya Polytechnic University College
KTTC	Kenya Technical Teachers College
LICs	Late Industrializing Countries
M. Ed	Master of Education
MHES&T	Ministry of Higher Education Science and Technology
MICs	Mature Industrial Countries
MOE	Ministry of Education
MPED	Ministry of Planning and Economic Development
MPUC	Mombasa Polytechnic University College
NICs	Newly Industrialized Country
NTC	National Trade Certificate
PGDE	Post Graduate Diploma in Education
TE	Technical Education
TIVET	Technical, Industrial, Vocational and Entrepreneurship Training
TTIs	Technical Training Institutes
TVE	Technical and Vocational Education
TVET	Technical and Vocational Education and Training
TVT	Technical and Vocational Training
UNESCO	United Nations Education Scientific and Cultural Organization
VITB	Vocational and Industrial Training Board
VTE	Vocational Technical Education
VTET	Vocational, Technical Education and Training

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Sustainable development depends on a nation's ability to acquire, share and apply knowledge and skills so that every citizen can lead a meaningful life in increasingly global knowledge-based societies. There is evidence that shows a close relationship between Technical and Vocational Education and Training (TVET), and social protection, employment and socio-economic growth according to the Ministry of Higher Education Science & Technology report, (MHES&T, 2008). This is primarily attributed to the fact that TVET enhances the employability of individuals and competitiveness of firms of a given nation (MHES&T, 2008).

It is important to note that there does not exist a single TVET strategy that is able to maximize creation of employment opportunities and also to foster socio-economic growth. This then seems to suggest that there are characteristics of TVET systems that appear to have an impact on employment and socio-economic growth. First, TVET systems need to be conceived as components of comprehensive employment policies and strategies. They need to focus on lifelong learning approaches and must foster close links to labour market services. They must also incorporate partnerships between government, private sector and civil society at all levels of decision-making.

Secondly, TVET should be rooted in comprehensive education systems, and observe strict quality management as a sub-system. Such TVET systems must also pursue integrated interventions between the labour market and private sector involvement (GTZ, not dated). Further evidence from China, suggests that

governments must have a willingness to adopt policies that promote a more demand-driven and employer-led system; and that policy makers need to develop strategies that will mobilize private sector resourcing to fill the demand gap (Parkinson, Ron 2006).

According to Parkinson and Ron (2006), in a report sponsored by the Germany Technical Cooperation (GTZ), TVET has had various thrusts in several countries. In china, for example, thrusts of TVET include, demand-oriented TVET which is crucial for global socio-economic competitiveness, competition is seen as a pre-condition of socio-economic growth and that socio-economic growth does create more and better employment. This thrust has been evidenced by social costs of socio-economic growth, investment in TVET for structural change, disparities of socio-economic growth, and an increasing internal labour migration and growing unemployment. Further Parkinson and Ron (2006) states that in Malaysia the thrusts of TVET are similar to the ones in China only that the evidence of TVET impact includes; booming modern sector, high-tech driving growth at the expense of labour intensive production, regional and sectoral disparities in human resource development and in employment and lastly TVET sustains structural socio-economic change in Malaysia.

Parkinson and Ron (2006) again states that, in the USA the thrusts of TVET lays mainly on the fact that sustainable socio-economic growth needs social coherence, employment-intensive growth based on the development of human and social capital , free market-driven TVET models that are falling short on the social capital side, and that social market economy-driven models can keep the balance. However in the USA, human resource development is widely left to the market forces and is largely the responsibility of the individual. This has further led to

high social cost of socio-economic growth and consequently little relevance of TVET for social coherence.

Parkinson and Ron (2006) go further to state that, in Slovenia and Germany, the thrusts of TVET is similar to those of USA. However in Slovenia, the evidence of TVET is indicated by a strong focus on lifelong learning, employability and active labour market policy. This has further enhanced human resource development as part of coherent employment policy for socio-economic growth; it seems to suggest that combining strategies for social and human capital works. In the case of Germany the thrust for TVET is evidenced by the social dialogue that sustains market-relevant quality of TVET. Government secures broad access to TVET and often adopts alliance for work public-private partnership in socio-economically difficult times. All these examples point to the fact that various countries view TVET differently. In the countries mentioned above, the role of TVET in socio-economic growth and development is evident although in different degrees in each country.

Seng, (2007) observes that, the issue today is not so much about the value and importance of TVET, but how to ensure its relevance, responsiveness and value in an increasingly global economy. Seng further asserts that the target student groups are more diverse, and the image, standards and values remain elusive. Often TVET is viewed negatively by society, and is also seen as the “weakest” link in the total education system in terms of better jobs and employability in many countries. In contrast, parents globally today continue to cherish the hope and aspiration that their children will make it to university for other “better courses”.

This intense desire to pursue a university degree generates unrealistic expectations amongst parents and adds pressure in schools to make children perform better in national examinations so that their children can enroll for the more societal prestigious courses such as medicine and engineering. The consequence is a prejudice against TIVET which in turn breeds less than positive image; yet, the greatest gaps in human resource development are in technical education and technical skills (Seng, 2007).

Seng, (2007) further observes that in Singapore's early years of independence from 1965, it became clear that the traditional trading, commerce and service sectors alone could not provide sufficient jobs for the number of school leavers in a growing population. The overall strategic plan of the Singapore Government then was to diversify and accelerate socio-economic growth through industrialization. During this early phase of socio-economic development, from the 1960s to 1970s in Singapore, the educational priority was to provide and expand primary and secondary education, including technical education and training, so as to lay the necessary foundation for the acquisition of basic vocational and technical skills. It was only from the 1980s onwards, that an increasing emphasis was placed on improving the level of skills and quality of the education and training systems, including the schools, universities, polytechnics and Vocational Technical Education (VTE).

The socio-economic development of Singapore may be characterized in three phases. A "Factor-Driven" economy, involving intensive labour in the 1960s-1970s, this progressed to an "Investment-Driven" economy, which was capital

intensive in the 1980s-1990s. Then there was the “Innovation-Driven” economy powered by the needs of knowledge intensive industries in the 2000s. Through these three phases, Singapore has evolved from an “Early Industrialization” economy to a “Newly-Industrialized Country” (NIC) economy and then to a “Globalised and Diversified” economy that it is today. In tandem with the changing socio-economic landscape, the VTE system evolved in response to the changing human resource needs. The education and training system ensured that graduates from the various educational institutions had the necessary knowledge and skills for the many new jobs, which were created in a rapidly growing economy.

Ishumi, (1981) in his study in Kenya, observes that education and development are inseparable and mutually supportive processes in the active and productive life of a people or community. In fact education is an integral part of development and at the same time a strategy for the wider development agenda. Although development involves the aspirations and actions of the people towards higher levels of socio-economic performance and achievement, on the other hand, education involves the art and act in which people are prepared to create or recreate new working values and habits for their changing lives in a dynamic environment.

Evidence from South Africa and Egypt, suggest that TVET strategies have been critical in their national development endeavors. In South Africa, TVET strategies have been critical components in achieving long term competitiveness in their economy (IMF, 2011). This has been achieved through promulgation of effective legislation for skills development based on socio-economic and social

demand. Demand oriented partnerships supporting broad based implementation of skills development strategies have been critical in adapting to the unique requirements of formal small scale enterprises in South Africa. In Egypt, the need for skilled workers to meet the requirements of its fast-growing economy has been identified. The TVET approach in Egypt focuses on demand led occupational standards, examinations and certification of training. In both cases a focus on demand led approaches to skills development through TVET has been critical in dealing with national development imperatives.

Valerian, (1988) highlighted structural difficulties encountered in education in Africa; such as insufficiently controlled population growth, poor knowledge of social education demand, perenniality of large classes, insufficient control of students' and teachers' movements or flows and absence of school maps. For Africa, in particular, the situation is serious. Holman (1993) also notes that Africa has been gripped by a fundamental struggle for socio-economic recovery against mounting odds. Castro (1996) highlighted the problem of viewing training non-systematically by reminding readers that there exists a strong myth that "training creates jobs," even when graduates of vocational schools cannot find jobs. These studies indicate the potential perceptions of learners in lower levels of education. These perceptions are likely to affect their attitudes towards TVET.

In a synthesis of twelve case studies based on both English and French speaking nations of Africa, Kerre (1995) concluded that most countries in Africa support the general objectives of vocational and technical education as follows: first, provision of technical education, alongside general education; and secondly

provision of knowledge and skills in technical and vocational fields in order to meet national manpower requirements in agriculture, business, industry and other technical services. Further Kerre and Kwende (1995) concluded that Africa could also benefit from Technical Vocational Education (TVE) and Technical and Vocational Training (TVT) but this will only be possible if governments and senior policymakers and planners show a more practical commitment to the importance of TVE and TVT. This can only occur when TVET is established within the accepted academic environment (including the universities). Competent teachers should be prepared and upgraded by the universities. Policy makers at every level should be familiar with the theories and practices of vocational and technical education and training.

The bottom line may be, however, as stated by Kerre in (1995) that:-

"It is now recognized that no amount of education and training will be sufficient to provide gainful employment without specific government policies aimed at creating an enabling environment for business and industry to expand."

From the above discourse, it is evident that these studies focused mainly on the role of TVET in society and also on government policies in the development of TVET in respective countries. This study therefore sought to establish the effects of TVET on socio-economic development in Kenya.

An assessment of the impact of the eight years of primary education, four years of secondary education and four years of university education (8-4-4 system of education in Kenya) on vocational education in the secondary schools, however, has not been encouraging. Sifuna (1992) and Kibera, (1993) observed that the new curriculum had not positively influenced students towards self-employment, technical, and farm-related occupations and that the desire for white-collar jobs was unabated. Sifuna, particularly, offered a possible explanation that: "...most

teachers handling prevocational subjects in the schools were generalists and they were therefore ill equipped intellectually to pass on technical knowledge and skills to their pupils".

Kenya's diverse socio-economic structure comprising of a growing modern industrial, agro-processing and tourism sectors, as well as traditional crafts and trades coexisting with an informal sector, illustrates the need for a well-differentiated TVET system. This is necessary so that the varying demands of enterprises and workers can be addressed. However according to Sessional paper No.1 of 2005,(Republic of Kenya ,2005), the objective of TVET is to provide and promote life-long education and training for self-reliance. TVET systems therefore play a crucial role in the social and socio-economic development of a nation. Owing to their dynamic nature, they are continuously subject to the forces driving change in the schools, industry and society. Often shaped by the needs of the changing global economy and local community, the challenges and opportunities of TVET are unique. A close review of Kenya's TVET system suggests that it has not risen to this challenge.

As mentioned earlier in this background, the Singapore experience and many other Newly Industrialized Countries (NICs), it is apparent that technical education is a major mover of socio-economic development in any country. This clearly shows how a country can utilize its resources and in particular educational resources to improve the lives of her people and more specifically in relation to socio-economic development. It is also clear that Singapore and Kenya almost attained political independence at the same time, that is, Kenya in 1963 and Singapore in 1965 (Powel, 2006). However, in terms of socio-economic development the two countries cannot be compared. As indicated earlier

Singapore is now a Newly-Industrialized Country (NIC) while Kenya is still a third world country or worse still a developing country (Powel, 2006). The Kenyan case can be partly attributed to the state of her technical education, which seems not to have played its rightful role in the process of Kenya's socio-economic development (MOE, 2005). Thus the purpose of this study is to investigate the effects of TVET on socio-economic development in Kenya.

According to Sessional Paper no.1, (2005), and other existing evidence in many publications, education and training, indeed, contributes to the scientific and technological progress and also it helps the spread of knowledge, which is the most decisive factor of socio-economic development. In the later part of the twentieth century and now in the twenty first century, TVET has and is perceived as one prime mover of socio-economic development. In fact due to the pressure of technological advancement and modernization, the demand for technical education for socio-economic purposes has been constantly on the rise, especially in the developing countries and Kenya in particular.

Therefore, physical resources and human resources in Kenya must be activated including mobilization of people and institutions in order to create new activities that make it possible to face the challenges of technological unemployment. This means that the various aspects of educational segments, in particular TVET must thus be coordinated and should be complementary in each case so that it is suitable to the local environment. Although education in general and TVET in particular, should be seen as serving other purposes beyond the provision of skilled workforce for the economy, it also serves to make human beings not the

means of but the justification for socio-economic development. This means that the main aim of socio-economic development is to improve the standard of living of human beings. Kenya as a country seems not to have achieved this level and hence the need for this study.

It is important to note that, despite the efforts of the government to make Kenya a developed country since attaining her political independence in 1963, for about fifty years now Kenya is still rated as a third world country and hence a developing country. There is documented evidence that countries such as Singapore, Malaysia, and Hong Kong among others that are now recognized as NICs (Powel, 2006). The NICs have better standards of living for their people and their economies are growing and expanding faster than that of Kenya even though they had attained political independence almost at the same period with Kenya. This has been attributed to their recognition that Technical Education (TE) is critical in the industrialization process and consequently socio-economic development (Powel, 2006).

To date the dream to become socio-economically developed country seems to have eluded the Kenyan people. This is evidenced by the fact that 19.7 percent of the Kenya population lives on less than \$1.25 a day and 46.6 percent of the Kenya population lives below the poverty line according to the Human Development Report (HDR, 2010). Urban poverty is of particular concern with an estimated 60 percent of Nairobi's population living in poor housing conditions lacking basic amenities such as water, sanitation, electricity and experiencing high levels of insecurity (HDR, 2010).

Poverty levels in the rural areas are worse compared to urban areas. According to Kenya Economic Survey (KES, 2012), in 2011 there were 520.1 thousand new jobs created compared to 498.6 thousand jobs in 2010. This represented an increase of 4.7 percent in 2011. This indicates that unemployment levels are still high in Kenya, considering the high population currently estimated at 40 million Kenyans. With regard to economic growth real Gross Domestic Product (GDP) was 4.4 percent in 2011 compared to 5.8 percent in 2010 (KES, 2012). The overall problem is that, factors influencing low rate of socio-economic development as well as the role of TVET programmes in socio-economic development in Kenya do not seem to be well understood. As such, the low rate of socio-economic development impacts negatively on the lives of the Kenyan people. This scenario needed to be investigated and hence the need for this study.

The concept of perception in this study refers to students' views, attitudes and opinions on the role of TVET on socio-economic development in Kenya. However, it is important to note that perceptions affect peoples' choices and behaviour and hence students' perceptions and choice of TVET programmes is no exception.

In a study conducted by the Oneida-Herkimer-Madison Board of Cooperative Educational Services in Hartford, New York (2007), it was found that 44 percent of students surveyed said friends influenced their decision to attend a career technical education program. The study emphasized that it was imperative that marketing strategies be developed that would inform students about career technical education and its opportunities, especially if they were influencing their peers. The goal of marketing strategies has to make sure that students are educated enough about career technical education (in this regard, TVET) to provide the right

influence on their friends (Gaunt & Palmer, 2005; Palmer, 2007). It was on the basis of this background that the statement of the problem was formulated.

1.2 Statement of the problem

In light of the background information to this study it was evident that in terms of socio-economic growth and technical skills, Kenya has lagged behind the countries that are her 'age mates' such as Malaysia, Singapore, Korea and South Korea, Hong Kong among others. A closer look at what creates the greater difference between the economic status of these countries was the approach accorded to TVET by the education systems in these countries. Singapore in particular adopted a very comprehensive approach towards TVET that has made it what it is today.

The Kenyan approach seemed to lack this impetus as indicated in the Sessional paper No.1 of 2005 (MOE, 2005). This lack of impetus had been partly due to the negative attitude most Kenyans (including some government officials) had towards TVET programmes. This had also been aggravated by lack of adequate funds to support TVET programmes, old and outdated training equipment, lack of coordination in the running and management of TVET programmes, just but to mention a few. The Sessional paper No.1 of 2005 recognized the vital role that TVET played in socio-economic development. It further recommended to the government to revamp and expand TVET by way of updating training equipment, increasing TVET funding and creation of a Technical University of Kenya for further training in TVET programmes. This was to be done in order to realize the economic benefits of TVET programmes to the country. It was in this regard that this study was of the view that the current policies such as involvement of all

relevant stakeholders in the development of a comprehensive national skills training strategy on TVET programmes did not seem to have had impact on the rate of socio-economic growth as would have been desired by every Kenyan.

This study, therefore, sought to investigate the effects of Technical and Vocational Education and Training (TVET) on socio-economic development in Kenya. Specifically the study examined students' perceptions on the role of TVET programmes on socio-economic development in Kenya. In addition, it investigated the effects of contextual factors, that is, students' parental level of education and number of siblings ; secondly, learner factors, in terms of age, gender, level of education; thirdly, institutional factors, in terms of lecturers' qualifications, teaching and learning facilities and TVET curriculum and type of TVET institution. Finally, the combined effects of contextual, learner and institutional factors were assessed in relation to TVET programmes' influence on socio-economic development. The independent variable in this study was TVET programme and the dependent variable was socio-economic development in terms of employment opportunities, self employment, further education, nation building, social cohesion, moral integrity and quality standards of life.

1.3 The Purpose of the Study

The primary purpose of this study was to investigate students' perceptions of TVET programmes on socio-economic development in Kenya.

1.4 Objectives of the Study

In carrying out this study, five objectives were formulated and they sought to:

- i) assess the effect of TVET programmes on students' perceptions towards their role in socio-economic development

- ii) determine students' perceptions on the influence of contextual factors on the role of TVET on socio-economic development.
- iii) establish the perception of learner characteristics towards the role of TVET programmes on socio-economic development.
- iv) examine students' perception on the influence of institutional factors towards the role of TVET programmes on socio-economic development.
- v) determine the combined effects of contextual, learner and institutional factors on students' perceptions towards the role of TVET on socio-economic development.

1.5 Study Hypotheses

The study sought to test the following hypotheses;

Hypothesis 1: TVET programmes do not significantly influence students' perceptions towards their role in socio-economic development.

Hypothesis 2: Contextual factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development.

Hypothesis 3: Learner characteristics do not significantly affect their perception on the role of TVET programmes on socio-economic development.

Hypothesis 4: Institutional factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development.

Hypothesis5: Combined contextual, learner and institutional factors do not significantly influence students' perception on the role of TVET programmes on socio-economic development.

1.6 Limitations of the Study

The study was faced with the following limitations: the socio-economic development in Kenya is affected by many other factors other than TVET programmes. Further individual perceptions could not be predicted and manipulated.

1.7 Delimitations of the study

The study sampled 17 public and 5 private Technical Training Institutes (TTIs) across the country. The study focused on the perceptions of students on the effects of TVET programmes on socio-economic development in Kenya in relation to contextual, learner and institutional factors. In addition, teachers, industries that consumes services provided by TVET graduates, the Ministry Higher Education Science & Technology (MHES&T) and the Ministry of Industrialization which were included in the study for the purpose of triangulation.

1.8 Significance of the Study

The results of this study are expected to provide information especially on the contribution of TVET on socio-economic development in Kenya and this will probably help to remove some perceived misconceptions on the importance of TVET and its impact on socio-economic development. The study results are also likely to establish the factors that may be militating against the role of TVET programmes on socio-economic development in Kenya. Further, the study is expected to make pertinent recommendations towards enhancement of TVET

programmes. Finally, the findings of the research are likely to be useful to all stakeholders including researchers, policy makers, educational planners, relevant government ministries, trainers and trainees in designing, implementation and monitoring of TVET programmes in Kenya.

1.9 Assumptions of the Study

The study assumed that, TVET has significant effect on socio-economic development in Kenya in terms of salaried employment, self employment and further studies for students. The study again assumed that stakeholders in TVET institutions had relevant information on TVET programmes and their contributions to socio-economic development.

1.10 Definition of Operational Terms

Acquired skills refers to the ability to perform a specific task either manually or intellectually or both after an individual has under gone some form of training in TVET institutions.

Attitudes refer to an individual's perception, ideas, views and opinions which can either be positive or negative towards a certain phenomenon (in this regard, TVET).

Demanded skills refer to the ability to perform a specific task which can either be manually or intellectually required in accomplishing a given job or assignment in the real world of work after graduating from TVET institutions.

Development refers to a people centered change or transformation process characterized by increased productivity, which arises from acquisition of fundamental knowledge and skills of TVET.

Education in this study refers to the product and the process that prepares and initiates learners particularly the youth, into the arena of TVET knowledge and skills in order to make them useful in the society.

Industry refers to a place where production takes place and often utilizes skilled manpower generated by TVET training institutions.

Knowledge refers to the know-how of doing things and especially in performing specific tasks and assignments often acquired from TVET institutions.

Perceptions in this study refer students' views, attitudes and opinions on the role of TVET on socio-economic development.

Skills refer to the ability to perform a specific task either manually or intellectually or both.

Socio-economic development in this study means employment opportunities, self employment, improved living standards and further education or training.

Technical education curriculum refers to all the subjects taught and activities provided at any TVET institution and may include time devoted to each subject activity.

Technical education refers to different post school course programmes undertaken by various students such as engineering, business and accounting, secretarial applied science among others relating to occupations in the various sectors of socio-economic and social life.

Technical trainings institution refers to institutions that offer technical education-TVET curriculum and produce graduates ready for the job market.

Technical and Vocational Education and Training (TVET) refers to technical educational curriculum designed to provide and promote individual life-long education and training for self reliance.

1.11 Organization of the rest of the Study

Chapter two, deals with the review of related literature, theoretical framework and conceptual framework. Chapter three, deals with research methodology and it contains research design, target population, sampling procedure, pilot study, description of data collection instruments, data collection procedures and data analysis techniques. Chapter four, contains data analysis, interpretation and presentation of research findings. Finally, chapter five gives a summary of research findings, conclusions and recommendations for further research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter deals with the review of related literature on the nature of technical education in Kenya. First it deals with the concept of perceptions and how they affect people choices and behaviour. The chapter discusses contextual factors that affect TVET and their effect on socio-economic development in Kenya. Further, it examines the role of learner characteristics and their perception towards the role of TVET, institutional factors in TVET human capital formation, technical teacher education and TVET government policies on socio-economic development in Kenya. It also discusses theoretical framework. Finally the chapter presents the conceptual framework developed for the study.

2.2 The concept of perceptions and how it affects peoples' choices

The concept of perception in this study refers to students' views, attitudes and opinions on the role of TVET on socio-economic development in Kenya. However, it is important to note that perceptions affect peoples' choices and behaviour and hence students' perceptions and choice of TVET programmes is no exception.

In a study conducted by the Oneida-Herkimer-Madison Board of Cooperative Educational Services in Hartford, New York (2007), it was found that 44 percent of students surveyed said friends influenced their decision to attend a career technical education program. This study emphasized that it was imperative that marketing strategies be developed that would inform students about career technical education and its opportunities, especially if they were influencing their peers. The goal of marketing strategies has to make sure that students are educated enough

about career technical education (in this regard, TVET) to provide the right influence on their friends (Gaunt & Palmer, 2005; Palmer, 2007).

Findings from the same study stated that 58 percent of the respondents that participated in career technical education said that a parent or guardian influenced them to take career technical education, while 16 percent of the students not participating in career technical education said that a parent or guardian influenced their decision. It is then important for career technical education marketing strategies to reach out to parents and guardians to make sure they are informed about career technical programs and their potential benefits (Palmer, 2007). The influence of parents and guardians is significant and must be addressed if enrollment in career technical education is to flourish (Gaunt & Palmer, 2005).

Gentry, Peters and Mann (2007) found that students commented favorably on their career technical education experience and negatively on their traditional high school experience when compared simultaneously. The five major themes from their comments included: autonomy, effectiveness, caring teachers, students with similar interests, and relevant content in applied settings. Career technical education students felt their experience involved a learning environment that offered curricular connections to the profession, hands-on learning, and relevant content in an applied setting (Gentry, Peters, & Mann, 2007).

In a study conducted to determine employer perceptions of vocational education (TVET) the researchers found that vocational programs had solid employer support. The respondents from smaller companies acknowledged that when they hired high school graduates for entry level positions they would prefer individuals that have completed a vocational education program (Hollenbeck, 2007; Sawyers, 1976; Talarzyk, 1975). However, corporate or larger companies were less

enthusiastic about vocational education. Many of them believed they could provide better on the job training and were willing to incur that cost (Hollenbeck, 2007; Sawyers, 1976). A second major finding from Hollenbeck's 2007 study was the systematic differences between vocationally trained and non-vocationally trained workers. The vocationally trained workers tended to: be younger at the age of hire, have greater educational attainment, have less prior relevant work experience, be more likely to be promoted, receive more training on the job and experience greater wage growth during the early part of the employment relationship.

According Sawyers (1976) if career technical education professionals rely on observable results for the development of a more favorable perception it will take a lengthy period of time and will fail to maximize other very effective techniques for influencing public opinion. Relevant curricula, effective teaching, and sound administration are recognized by the public and make essential contributions to creating a favorable image. It is also argued that even the most effective and productive educational programs require continuous dynamic publicity, explanation, interpretation and emphasis to maintain a positive image (Sawyers, 1976). Dobson and Edwards (1971) noted that respondents in the State of Florida who could recall seeing mass media advertising pertaining to vocational education could not recall what was stressed in the advertising. When choosing advertising medium current career technical education professionals may need to engage in this type of passive media; however, they also should promote active first hand interactions to solidify their message (Palmer, 2007).

Rossetti (1991) carried out a study about the influence of students' decisions to pursue a TVET curriculum or who chose not to enroll in a Vocational School in

Ohio. While evaluating the external factors that contributed to students' decisions to enroll in Career and Technical Education (CTE) classes, Rossetti found that friends were the most influential with 53 percent stating that they had consulted their friends. (Rossetti, 1987) The next most influential figures were mother/female guardian (49%); father/male guardian (44%); brother/sister (39%); counselor (35%); girl/boyfriend (32%); other relative (32%); teacher(s) (28%); and athletic coach(es) (21%). A report by Dunham and Frome (2003) took a closer look at the role teachers and counselors can play in encouraging and influencing students in their high school course selections. Their results were similar to Rossetti's (1991).

Current labor markets can also affect a students' decision to enroll in TVET programmes. A publication by the National Center for Educational Statistics reported "students may be more likely to concentrate on vocational areas that prepare them for occupations with increasing job opportunities" (Rossetti, 1991). In the case of the current U.S. job market, this would mean that students who take advanced courses in math and science and focus their studies towards engineering careers could be doing so not for their interest in those subjects but because they recognized the labor market's shift to careers in engineering fields. This would also mean that these same students would specifically withdraw from involvement in courses focusing on low demand careers. New forms of career and technical education need to emphasize academics and career training in electronics and computer (TVET) fields because the job market has made a turn towards careers of a more technical nature.

In summing up this section, it is evident from the various studies that students' perceptions towards TVET are influenced by a number of people and other related

factors. Key among these are the parents, friends, teachers, employers, counselors and job market opportunities. The students therefore, make decisions to enroll in TVET programmes depending on the individuals who have higher influence on them.

2.3 Contextual factors in TVET and its effects on socio-economic development in Kenya

Contextual factors in this study referred to the parents' level of education and their support of students who had enrolled for different courses in various TVET institutions. It also referred to social cultural factors, socio-economic factors of the both the students and their parents. These contextual factors do influence the perception of both the students and their parents on the effect of TVET on socio-economic development in Kenya.

Consequently Kenya's diverse socio-economic structure comprising of a growing modern industrial, agro-processing and tourism sectors, as well as traditional crafts and trades coexisting with an informal sector, illustrates the need for a well-differentiated TVET system. Towards this end, the government of Kenya has several recommendations in policy documents and in various commissions since Kenya attained political independence from Britain, her former colonial master in 1963.

2.3.1 Development of TVET in Kenya from 1963 to the present

Since independence Kenya has been dealing with poverty, disease and ignorance as defining its development challenge. Various policies have been implemented with varying degrees of success to deal with these challenges. For instance, since 2003, the Government has been implementing the Socio-economic Recovery

Strategy for Wealth and Employment Creation (ERSWEC), 2003 – 2007(GoK, 2003). This strategy which has expired has been followed up by the Kenya Vision 2030, built on three pillars namely, socio-economic, social and political (MHES&T, 2008).

In order to attain the three pillars of vision 2030, namely, socio-economic, social and political, the role of TVET has been identified as critical element at various levels. TVET is expected to develop: (GoK, Vision 2030)

- i. the required skills for employability and job creation in support of priority growth sectors;
- ii. train human resource for Micro and Small Enterprises (MSEs) through the technical, industrial, vocational and entrepreneurship (TVET) institutions;
- iii. use (TVET) institutions to correct income disparities within Kenyan society;
- iv. ensure that there is a matching of skills to market demand by effectively repositioning and revitalizing TVET institutions to absorb the many primary and secondary school graduates who choose to pursue TVET; and
- v. promote e-learning within and without TVET institutions. The latter is expected to facilitate efficient and effective achievement of TVET objectives and at the same time promote utilization of Information Communication Technology (ICT) in Kenya (MHES&T, 2008).

According to (MHES&T,2008) the government has, therefore, continued to look upon TVET to address the above challenges and cater for the anticipated increase in the number of school leavers seeking skills training as a result of free primary and secondary education introduced in 2003(MoE,2008). Under Kenya's Vision

2030, it is anticipated that serious measures will need to be put in place to upgrade TVET institutions to enable them to provide quality training in skills, consistent with emerging technologies and also introduce a national system of certification (MHES&T, 2008).

Since independence, there have been several Commissions on education and training which have recommended actions with varying implications on skills development for delivering evolving national development strategies (MHES&T, 2008). Some key recommendations from relevant commission reports are summarized in Table 2.1

Table 2.1: Key TVET Recommendations, 1964 to date in Kenya

COMMISSION REPORT/ YEAR	KEY RECOMMENDATIONS AND EFFECTS	THRUSTS
<p>Kenya Education Commission Report (Ominde Commission-1964)</p>	<ul style="list-style-type: none"> • Desegregation of education system • Fostering national unity • Creation of technical secondary schools • Establishment of first Christian Industrial Training Centre from 1965 by NCKK and stakeholders • Creation of Village Polytechnics from 1966 	<ul style="list-style-type: none"> • Social Integration • Establishment of skills development institutions
<p>The Presidential Working Party on the Establishment of the Second University in Kenya. (Mackay Commission – 1981)</p>	<ul style="list-style-type: none"> • Expansion of access to skills training • Establishment of Moi University • Creation of the CHE to coordinate higher education, introduction of vocationalization technical subjects at all levels of education • Up grading of technical secondary schools to Technical Training Institutes in 1986 	<ul style="list-style-type: none"> • Development of adequate human capital for middle level and senior Management cadres • Empowering the TVET graduates for self reliance • Employment creation • Poverty alleviation • Social integration • Socio-economic recovery and growth

The Presidential Working Party on Education and Manpower Training for the next Decade and Beyond. (Kamunge Taskforce - 1988)	<ul style="list-style-type: none"> • Cost sharing • Introduction of entrepreneurship education alongside technical skills acquisition. • Promotion of income-generating activities in learning institutions. 	<ul style="list-style-type: none"> • TVET skills for competitive employment and job creation. • Rationalizing financing of skills development provision
Totally Integrated Quality Education and Training for the next Decade and Beyond. (Koech Commission – 1998)	<ul style="list-style-type: none"> • Removal of vocational technical subjects from primary and secondary curriculum • Strengthening of TVET institutions 	<ul style="list-style-type: none"> • Rationalizing of overloaded 8-4-4 curriculum • Revitalization of TVET
A policy framework for Education, Training and Research – Ministry of Education, Science and Technology (Sessional Paper No.1 of 2005 -GoK, 2005)	<ul style="list-style-type: none"> • Revise TVET Curriculum in Kenya • Promote graduate training in TVET 	<ul style="list-style-type: none"> • Restructure TVET Curriculum • Establish TVET graduate programmes in Universities

(Source MHES&T, 2008)

From the information contained in Table 2.1 it is evident that the Kenyan TVET stakeholder, in their efforts to address this challenge, confronts the stark realities of inappropriateness of the prevailing philosophy and practice of education. However, in relation to the socio-economic aspirations of the country and with regard to poverty eradication and employment creation, social inclusivity and political enterprise these realities have to be addressed.

The paradigm within which Kenya’s economy traded with and related to other economies both within the region and the wider outside world has been based on the understanding that, no single country could provide itself with all the consumption requirements of even the simplest standard of living (lessons learned from the “self reliance import substitution model”(MHES&T, 2008). These traditional economies therefore, engaged in socio-economic activities for which they were “best suited” or had a comparative advantage in terms of natural abilities or resource endowments, cheap semi-skilled labour for primary

production and so traded. This paradigm has exhausted itself in the current Kenyan socio-economic situation (MHES&T, 2008).

The new paradigm appropriate for this era of globalized open market competition is the micro-socio-economic business model way of thinking. This model emphasizes competitive advantage, in terms of human capital formation through education and training that nurtures and promotes individual and societal creativity, innovation, continuous learning, entrepreneurship and a quality workforce to create and exploit select global market niches in peculiarly differentiated products and services which emanate from our culture and imagination (MHES&T, 2008).

2.3.2 Global perspective on TVET

However, Kerre (1990) suggested that from a global perspective, the framework for technology education for any given nation must be drawn from two main aspects: first, a widely recognized and acceptable national conceptualization of the role of technology in national development, the need to compete favorably in an international market, the elements of technology education curriculum and the emphasis to be given in the school curriculum, a clearly defined and articulated vocational and technical training system that responds to the needs of society, industry and individuals. Secondly there must be a clearly defined national policy framework that has legislative backing. This policy framework identifies and encourages the development of appropriate technologies which will enable the nation to meet its national development needs as well as remain competitive in a technological international market. Also, the policy framework supports comprehensive and continuing vocational technical training, and encourages and

stimulates employment creation through self employment in both the formal and non-formal sectors of the national economy.

Further, Kerre and Kwende (1995) specified three types of structures that could be used to implement such a policy: the traditional approach where TVET is offered as a separate system in its own separate TVET institutions, TVET is offered alongside general education in the same institutions but still on a separate trajectory and an integrated one where TVET curriculum is a requirement for all learners at certain levels and an option at higher levels. They argued for the latter as it offered the widest opportunities possible for learners to pursue either general education or TVET, the demarcation between general and vocational education was minimized as learners experienced the interrelationships between theory and practice, and it was feasible to focus on general aspects of education at the lower level with an increasing amount of vocationalization or training as the learner moves to higher levels. This final point was reiterated in greater detail by Kerre (1991) and (1996). The argument is also consistent with what was made by Young (1993), who said: "A unified system does not separate academic and vocational routes but recognizes that to fulfill the aims of a highly qualified workforce, a wide range of different combinations of academic and vocational studies need to be possible that do not separate students into distinct tracks".

Young (1993), unlike Kerre and Kwendo (1995) outlined four conditions for achieving a unified system as follows: a wide professional consensus in the education community, strategic thinking on the part of industrial leaders and trade unionists, political will on the part of the national government, and a high value

placed on education within the culture as a whole. Her final conclusion was that: "A unified system is the only future for any country, whatever its current circumstances. Academic and vocational divisions for all their embeddedness in our culture and our institutions are structures of the past which were developed in response to certain circumstances at a particular time. That time has passed".

Bowles (1993) echoed this very sentiment. He said that an occupational skills focus for the school system particularly at its elementary and secondary levels will prove an expensive and ineffective productivity development strategy. This he further said will compromise the more general objectives of developing the capacity for critical thought, collective action, and further learning throughout life.

In spite of and, perhaps, because of failed policy, UNESCO (1989) saw the need for vocational and technical education as significant to worldwide socio-economic development and peace. This led to UNESCO (1989) being involved in the development of national policies for vocational and technical education. UNESCO has been on the forefront in providing guidelines on policy, financial aid and technical support in regard to TVET especially to the developing countries including Kenya.

Bennell (1993) discussed principles related to industrial training that have been learned from the experiences of LICs (Late Industrializing Countries) and MICs (Mature Industrial Countries). Among the principles are : the realization that the formulation and implementation of industrial training policies is a complex social and political process that often has unintended consequences, the establishment of clear priorities in allocation of public resources, agreement with the training process, provision of high quality general education as an essential foundation, integration of industrial training with general education, decisive involvement of

the state, and establishment of partnerships of work force quality. He added that the central objective of industrial training is improvement in productivity. Training needs to be relevant to the needs of employers, and automation has increased the need for retraining. Bennell (1993) further mentioned that small and medium enterprises need state assistance with training but cautioned that most levy-grant schemes have not worked well.

Hobart (1996), reported about the Adult and Continuing Technical and Vocational Education (ACTVE), (UNEVOC and UNESCO, 1995) and noted the following basic principles, among others, that were adopted: First, there is a need for systematic policy on ACTVE in all countries. This policy must ensure that it is relevant to the following contexts: international; national; and sub- regional. Secondly, in order to create motivation for ACTVE among older persons and among the young, there should be no barriers to it, such as age, gender, religion, culture, and class but rather integration of technical and vocational education skills and learning into the formal educational system. Thirdly, ACTVE must be learner-centered, reason-oriented, and user-friendly and recognize prior learning. It needs to contain a values-dependent perspective of people.

2.3.3 Parental contextual factors and students' perceptions of TVET programmes on socio-economic development

In light of the above discourse, it is evident that contextual factors influence peoples' choices. In this section, the focus is to examine how selected factors related to the parents of students in TVET programmes such as parents' level of education and family size influence their perceptions on TVET programmes on socio-economic development. With regard to parental level of education, it is evident that this often influences students' choice for TVET programmes. This is

mainly because most parents who are educated and even those who are not often encourage their children to go for training to acquire either employment or self employment skills. Most parents therefore relate well with TVET programmes and hence they influence their children to enroll for courses in the TVET training institutions.

The family size which is often determined by the number of siblings in a family also influences the choice of students who enroll in TVET programmes. This is often as a result of economic factors affecting the family. Most families that are of poor background are most likely to encourage their children to go for training in TVET institutions. These is often done with the hope that once trained then the children will get employed or engage in self employment and this is likely to boost their economic potential and consequently improve their standard of living. Overall therefore, the level of education and the size of the family do influence students' choice to join TVET programmes.

2.4 Learner characteristics and their Perceptions on TVET Programmes

Learner characteristics are very vital in any form of training. This is because they define the learner and the whole process of educating him/her. The output in this regard is seen in relation to the benefits of training which inform socio-economic development in terms of skilled labour, employment opportunities, self employment, improved standard of living due to increased incomes and opportunities for further education. These benefits may result in better health and improved quality of life, thus setting off a virtuous spiral in which life expectancy improvement enables individuals to work more productively over a longer time, further boosting lifetime earnings. Learner characteristics do influence their perceptions on several issues facing them.

2.4.1 Gender and Perceptions on TVET programmes

A study by Sharek Youth Forum (SYF, 2011) in Israel revealed that students' perception towards TVET is influenced by several parameters. The study looked at students' preferences, status of different careers, and their understanding of TVET. The study established that; Students' preferences were strongly in favour of careers with academic education requirements; students demonstrated an interest in careers with a more vocational path. The study further revealed that more than 90percent of students surveyed thought it was important or very important to go to university. Only 15-25percent of students held strongly negative perceptions about vocational education (such as "enrolling in vocational education will be a disappointment"), although for several perceptions numbers had increased slightly since 2009. Almost 88percent of students held the positive perceptions that "vocational education graduates could develop a profession" (SYF, 2011).

With regard to students' understanding of TVET, the study further revealed that 72percent of students knew what vocational education was (compared to 65percent in 2009) and 56 percent believed it was as important as academic education. Only 28 percent wanted to enroll in a TVET course. This was lower than in 2009 (36 percent), although counting the maybe option introduced in 2011, a total of almost 60percent were interested. Interestingly, only 19percent thought there were enough TVET schools, compared to 38percent in 2009. This indicated a better understanding of the actual numbers of places available in the TVET stream. The most significant improvement was in the number of students reporting a visit from a TVET representative. In 2009 this was only 8percent but in 2011 it was 62 percent (SYF, 2011).

The use of technology in future jobs makes it particularly important for both male and female students to develop skills that will help them become technology literate and prepare them to work in a technological society. Several researchers have found out that attitudes or perceptions toward technology differ significantly between males and females, with males indicating greater interest and knowledge (Bame, Dugger, deVries, & McBee, 1993). Other researchers found that female students perceived technology as more difficult and less interesting than male students (Boser, Palmer, & Daugherty, 1998). According to Linn (1999), the difference in gender attitudes or perceptions and uses can be traced back to the placement and use of computers in education, where they were mainly used in research and administrative offices by white males. Females were introduced to computers in word processing and secretarial classes, while males used computers in advanced math classes (Linn, 1999). Silverman and Pritchard's (1996) study supports this gender attitude difference. In their study, females' attitudes toward technology went from enjoyment of technology education and confidence in technological abilities at the beginning of the study, to negative attitudes by the end of the study that resulted from monopolization of equipment by males and the males making fun of the females. Sacks and Bellissimo (1993) found that female attitudes toward computers became more positive when they spent more time on computers.

Other studies showed differences in gender perceptions, especially in the USA where females viewed the computer as a tool, while males viewed the computer as more of a toy for fun (American Association of University Women Educational Foundation, 2000; Becker, Kottkamp, Mann, & Skakshaft, 1999). This explained why most female students in TVET institutions enroll in 'perceived female course' such as business, secretarial, food and beverages among others unlike their male

counterparts who enroll in 'perceived male course' such as electrical engineering, mechanical engineering and automotive engineering among others. These findings had a lot of relationship with the Kenyan situation.

2.4.2 Age and Perceptions on TVET Programmes

The Gross Enrolment Ratio (GER) is defined as the “number of pupils enrolled in a given level of education, regardless of age, expressed as a percentage of the population in the theoretical age group for the same level of education” (Cereq, 2004). Meanwhile, the Net Enrolment Rate (NER) is defined as the “number of pupils in the theoretical age group for a given level of education enrolled in that level expressed as a percentage of the total population in that age group”(Crouch et al,1999).

The theoretical age group is critical in order to calculate both indicators: for a given International Standard Classification of Education (ISCED) level this is in theory determined by the general programme with the highest level of enrolment. Typically there are no other general programmes at the same level, or they tend to be much smaller than the main one. Thus, determining the denominator for enrolment ratios and rates is relatively straightforward in the case of general programmes, and the resulting figure is by and large consistent with the typical ages of a programme that represents, if not all, at least an important share of the enrolment. This approach is often never used in TVET programmes.

This is not the case with TVET, where heterogeneity is the norm: usually several programmes with different theoretical school-age groups coexist at the same level, each of them having a relatively small share of the total vocational enrolment. As a result, the theoretical age group for a given level is unlikely to

be defined by vocational programmes even if the sum of their enrolments were higher than those of the most popular general programme. Moreover, theoretical age groups for vocational programmes are often ambiguously or broadly defined: the “typical” starting age for many of these programmes is often, rather than an individual age, a range that can be as wide as 19-25 years. According to Dore (1989) therefore, depending on whether the theoretical age group for the (usually general) programme that defines the level is narrower or wider than the vocational programme’s, it is Gross Enrolment Ratio (GER) would be respectively overestimated or underestimated.

It is important to note that TVET enrolments by age are not available as often as their general education counterparts. Even when available, they are more likely to include ages that fall outside the range defined in the questionnaires (for instance, more than 24 years for secondary education). Furthermore, TVET enrolment is often not reported by age and grade, which in the case of general education is frequently used for consistency analysis. Consequently, the numerator of the Net Enrolment Rate is, to some extent, more likely to include missing data or inaccuracies for TVET than for general education (UNESCO, 2006). Therefore, Net Enrolment Rates was not calculated for this study because it was not found to be significant.

A survey done by City and Guild in nine countries (Australia, Canada, Denmark, Germany, Hungary, India, Malaysia, South Africa and the UK) found that with the exception of Hungary, the image of vocational training was seen by the people to be generally poor in these countries (The Guardian, 2008). In contrast, most employers attached a positive image to vocational qualifications in terms of work readiness and

adequate income (The Guardian, 2008). Many factors can influence a students' decision to pursue a vocational training programme. The image of vocational trainings is one of the factors that play an influential role in students' decisions to enroll in these programs. Parents as well as school counselors with their personal views can also influence a student's decision in pursuing vocational training. Unfortunately, many have negative view of vocational education as being a suitable educational path for low academic achievers and school drop outs who want to go directly into the workforce (Hoxter, 2002).

According to Beltram (2007) vocational education is often considered suitable for high risk youths, and not having challenging curriculum as compared to the mainstream academic path in which most of the bright students chose to be in. These negative views can impact students' decision on whether or not to pursue vocational trainings which will impact a country's agenda on human recourse development and consequently on socio-economic development.

TVET is concerned with the acquisition of knowledge and skills for the world of work to increase opportunities for productive work, sustainable livelihoods, personal empowerment and socio-economic development in knowledge economies and rapidly changing work environments (Maclean, Wilson et al. 2009). Radwan, Akindeinde et al. (2010) argued that in order to achieve the African Continent's development aspirations, young people need to have access to an education that will enable them to enhance their standard of living, become aware of health issues, achieve their desired family sizes and gain competitive skills that will be in high demand in the labour market. De Largentaye (2009) recalls that vocational training is only one of several instruments for employment

generation. Whereas vocational training can develop appropriate skills and thereby improve labour supply and the “employability” of the work force, the demand for labour depends on incentives for investment, including prices, the exchange rate and generally, the business climate in the country.

Globally, the number of secondary students at the age group from 10 to 18 years enrolled in TVET increased from 46.6 million in 1999 to around 54 million in 2007 with the percentage of females remaining around 45percent(ILO,2010). The 16percent increase in TVET was slightly lower than the 19percent increase in total secondary enrolment (including both lower and upper secondary enrolment). During the same period the World’s youth unemployment fell slightly from 73.5 million in 1999 to 72.5 millions in 2007, after which it rebounded due to the global crisis. The global crisis included the USA economic meltdown that affected the global economy. This fall is equivalent to a fall in the World’s youth unemployment rate from 12.6percent in 1999 to 11.8percent in 2007 (ILO, 2011, 2010).

Therefore it is evident that most students globally join TVET institutions in their early 20s. The age of students therefore influenced their perceptions towards TVET. Majority of these both male and female would have finished high school and were in the process of starting career development. Most of the youths then would start with TVET programmes.

2.4.3 Level of education of students and perceptions on TVET programmes

UNESCO has published a series of reports evaluating the impact of vocationalization in education in Sub Saharan Africa (Maclean and Lauglo,

2005). These reports refer to a curriculum structure in which students devote a minor share of their class time to vocational or practical subjects, without, by so doing, closing their prospects for higher education. However, the main survey available on access to formal TVET worldwide was conducted in 2006 by the UNESCO Institute of Statistics (UIS). In addition to the more recent UIS (2009) the UIS (2006) publication provides recent and more comprehensive statistics on TVET enrolment as a percentage of total secondary school enrolment. The statistics show only a part of the whole picture because enrolment in formal TVET reflects only a small percentage of the total participation in training, neglecting the other TVET modalities (Kingombe, 2012).

Dar and Tzannatos (1999) suggests that research evidence points to some generalizations about Active Labour Market Programmes (ALMPs), which they summarize programmatically that training for youth generally had no positive impact on employment prospects or post-training earnings. It clearly could not make up for the failures of the education system. Taking costs into account, the real rate of return of these programs in both the short- and long-run was usually negative.

Institutional reforms should address the stigmatization of vocational training as being reserved for the academically weak students. This perception needs to be changed through a sustained civic education campaign (Kingombe, 2012). Education and skills are important for growth and productivity but are also at the centre of a fair and inclusive globalization and broad access to opportunities is vital. The World Commission on the Social Dimension of Globalization noted that all countries that have benefited from globalization have invested significantly in their education and training systems (Poschen, 2009). In this ever-

changing fast-paced global economy, technology is becoming more and more important. Each of us will be using some sort of technology everyday in our lives, which means that the field of vocational training has never been as important as it is today (Greene, 2009). This is of great importance especially to learners in TVET institutions.

2.5 Institutional factors in TVET and its effect on Socio-economic development in Kenya.

Institutional factors in this study referred to: teacher/lecturers' qualification, physical infrastructure, teaching and learning facilities, TVET curriculum appropriateness, TVET policies and relevance to socio-economic development in Kenya. These factors were worth considering in this study because of their influence on the learners perception on the effect of TVET on socio-economic development.

2.5.1 Teacher qualifications in TVET programmes and socio-economic development

According to Dahlgren and Stone (1990) while addressing training at the post-secondary found that industry is concerned about the quality of the technical instructors who deliver technical training. Jacobs (1989) also stated that many teachers do not have the skills necessary to educate the modern workforce. Although many schools had spent large amounts of money on state-of-the-art equipment, they had not developed staff that could use it or teach students about it.

Kerre (1986) argued that "the subject (of vocational education in Kenya) had not received any substantive attention by scholars". While this situation had changed somewhat since that time, only a few names (Kerre's primary among them)

surfaced in a review of the literature since that time. Perhaps that was because vocational and technical education was not firmly established in any university in Kenya. Kerre (1986) envisioned the establishment of graduate and post-graduate programs in vocational and technical education in Kenyan universities that would foster commitment to excellence in disciplined inquiry, personnel development, and service. He concluded that, though "programs of vocational education were a major part of Kenya's educational and training systems, it was surprising to note, however, that our national universities did not have any vocational teacher education programs". However, Moi University currently offers a Bachelor of Education in Technology (B.Ed Technology). The main objective of this programme was to produce qualified graduate teachers so as to meet the ever increasing and insatiable demand for technical education teachers in Kenya. In 2012, the educational sector in Kenya also saw the establishment of the Technical University of Kenya (TUK) and Technical University of Mombasa(TUM). These two universities would contribute greatly to the production of graduates with TVET skills in Kenya.

At a comprehensive level, this comment remains true. For individual subjects, however, this statement is not accurate. For example, the Faculty of Education at Kenyatta University offered Bachelor of Education (B Ed), Post-Graduate Diploma in Education (PGDE), and Master of Education (Med) degrees in Business Education (Accounts and Commerce), Fine Arts and Crafts Education, Home Science Education, and Secretarial Studies Education, all of which were considered part of vocational education in Kenya. Egerton University on the other hand offered degrees in Agricultural Education. The question here was were these programmes really TVET in nature?

Kenya Technical Teachers College (KTTC), on the other hand, while not offering degrees, does offer Diplomas in several areas of vocational and technical education and an Advanced Diploma in Electrical Engineering and Entrepreneurship Education. As of 1989, KTTC was the "only institution in Kenya that produced professional technical teachers" (Ayot, Patel, Kiminyo, Orwa, Okech and Godia, 1989). At that time, it produced an average of 190 teachers per year, far short of demand (Ayot et al, 1989).

Kerre (1987) made the case for the need in Kenya to develop a high number of new teachers with a vocational and technical education background. He concluded that, among the three problems causing serious constraints in the schools for vocational and technical education are facilities, equipment and materials, insufficient and poorly trained teachers. He went on to argue that, up to a minimum total of 5 vocationally trained teachers were required for each of the 12,943 primary schools in the country. When secondary and post-secondary schools were added to this total, it was clear that there was definitely a need for attracting and training technical and vocational teachers.

Kerre (1986) had earlier suggested that, Post-Graduate Diplomas in Education should be awarded to prospective vocational teachers who already held diplomas or Bachelor degree in vocational and technical areas. Master and Doctoral programs in vocational education should emphasize professional skills in research and evaluation and curriculum development in vocational fields.

One of the difficulties that was likely to be faced in implementing a vocational and technical education and training program in a Kenyan university, was likely to be the generally poor condition of higher education in Kenya, due to a number of factors. Mazrui (1994) highlighted some of these factors as poorly stocked

libraries, lagging behind in computer revolution and direct interference by the government in university affairs which has been going on for some time especially during the one party rule in Kenya.

An article by Tunbridge (1995) concluded that Kenya's higher-education system was the envy of many poorer African countries two decades ago, but political interference and mismanagement had brought Kenya's universities to the brink of collapse. This sentiment would be considered true at that time and not at the time of this study. Things since then had changed, especially in the management of Public Kenyan Universities and there is minimal hand of the government in the management of these institutions. Nevertheless, in reality, and the context for a teacher education program in vocational and technical education need to be taken into account in carrying out the recommendations that should be followed in improving technical education in Kenya.

In the current scenario, things have not changed much though. The TVET system has a critical role to play in the production of a work force that will contribute significantly to the achievement of the national development goals (GoK, Vision 2030). Success in this regard would highly depend on the capacity of the TVET system. Human resource is the most important asset of any organization. Currently, most TVET institutions do not have adequate academic, professional and technical staff of the right profile to enable them achieve the expected output.

Apart from the existence of gaps between competencies and responsibilities of those mandated to undertake provision of training, there is a challenge of the loss of professionally competent staff migrating from the sector to other sectors and even to other countries. Attraction and retention of such staff has been a

challenge since the terms and conditions of service in the sector are not attractive to the serving staff (Tunbridge, 1995). The current infrastructure and training resources in most public TVET institutions were not appropriate for the production and retention of competent personnel needed to train workforce required at the workplace. In most of the institutions, the equipment were either not available, in disrepair or obsolete. However, some national polytechnics and TTIS had recently acquired state of art equipment for some of their training programmes (MHES&T, 2008).

Education and training therefore are the two main intertwined mechanisms through which any economy nurtures its labour force with a view to producing necessary skills, both technical and general skills required in various sectors of the economy. Training in particular is expected to nurture creativity, critical thinking, and produce innovative and adaptive human resources with appropriate skills, attitudes and values for wealth creation, employment and prosperity. Thus although basic (primary and secondary) education has a key role in laying the base for skills development, real skills training takes place in the tertiary education level including Technical and Vocational Education and Training Institutions (TVET), middle level colleges, and at the Universities (MHES&T,2008).

An implication of this discourse is that the availability of qualified trainers in TVET is crucial in ensuring the graduates are competently trained. Although the study did not focus mainly on this aspect, it is clear that more studies need to be carried out in order to establish trainers' qualifications and competencies in TVET institutions in Kenya. This kind of study would provide staff audit in terms of current qualifications and the required training needs.

2.5.2 Physical infrastructure, teaching, learning facilities and TVET programmes

Sifuna and Shiundu (1988) together with Omulando (1988) indicated that, in colonial days before 1963, black Africans were excluded from "academic scholarship". Their education was limited to rural and industrial manual education (vocational and lower-level technical education) for service to the white settlers. It was also heavily influenced by evangelization, driven by the need for minimal literacy to read scriptures. Thus, at the time of independence, black Africans rushed to throw off the "shackles" of vocational education to receive the academic and higher-technology education and training from which they had been systematically denied previously. Due to this historical trend the image of vocational and technical education remained tainted for a long time (Ngome, 1992).

While this attitude had been widely shared in interviews and repeated in several articles, it did not seem to account for the similar poor image of vocational and technical education and training in countries not sharing this history. Interestingly, Ngome (1992) concluded that "...after independence, the same vocational education that was rejected during the colonial era had been embraced again as a measure of curbing school leavers' unemployment".

The 8-4-4 system of education was introduced in Kenya in 1985, replacing the previous system of seven years of primary education, four years of secondary education, and two years of high school and three years of university education (7-4-2-3 system of education in Kenya). The primary objective of moving towards the 8-4-4 system was to increase the vocationalization of the curriculum and to retain students in schools longer so that they would be more mature as they left

school and entered the job market (Republic of Kenya, 1984). Specifically, in introducing the system, the Ministry of Education, Science and Technology then, gave rationale for the new system as the need for a more relevant practical oriented curriculum with an emphasis on technical and vocational education. It was hoped that this would ensure that graduates of every level had some scientific and practical knowledge for, self-employment, salaried employment, or further training (Republic of Kenya, 1984).

It is not surprising that Kenya took this step, along with many other developing countries. As Fisher (1993) observed, there was an intuitive appeal, underpinned by political and socio-economic considerations, to the claim that schooling should be made more 'relevant' to the world of work and the requirements of the economy. This claim had been particularly strong in developing countries, where from colonial times, governments had tried to curb educational 'over-production', limit the demand for higher education, inhibit migration from the rural areas to the towns and strengthen the contribution of the education system to socio-economic growth.

An assessment of the impact of the 8-4-4 system on vocational education in the secondary schools, however, was not encouraging. Sifuna (1992) and Kibera, (1993) observed that the new curriculum had not positively influenced students towards self-employment, technical, and farm-related occupations and that the desire for white-collar jobs was unabated. Sifuna, particularly, offered a possible explanation that: "...most teachers handling prevocational subjects in the schools were generalists and they were therefore ill equipped intellectually to pass on technical knowledge and skills to their pupils"(Sifuna,1992).

It was for these reasons, and others, that Fisher (1993) argued for "a late selection, high participation, integrated curriculum" rather than "an early selection, low participation and differentiated curriculum" that would be preferred in TVET system. Such a conclusion was consistent with the policy change of the World Bank (1991) as it shifted its priorities from prevocational courses and secondary vocational training to strengthening general education. It claimed that such a shift was reflective of "an emerging international consensus about the high costs of vocationalization and the relative failure of school-based vocational programs to achieve their intended goals". The estimate was that "technical education can be twice as expensive as traditional schooling". Capital costs for vocational education may be five or six times higher than for general education". Lack of planning, especially relative to costs, was also blamed for the failure of the 8-4-4 system by Muya (1993) and Kerre (1993). These cost problems exist even today even though the government allocates about 30-40 percent of its budget on education (Aduda, 1994). However the government budgetary allocation to education has greatly changed in the recent past to about 20-30 per cent (GoK, 2012).

In the Jua kali sector (informal business, often set up mainly on the side of the road and on Jua kali sheds constructed by the government) arrangements, training is only a by-product of the production process. It was also generally observed that masters mostly pass on their skills and knowledge to apprentices, but they rarely create new knowledge. The absence of any formal instruction favors acquisition of practical skills vital to production and management, but limits theoretical understanding. Apprentices learn enough for commercial survival, but not enough for significant improvement in productivity. The impact of apprenticeships on the

economy is limited by the number of masters willing to take on apprentices, (Sifuna, 1993).

Twoli and Maundu (1993) explained the process of training within the jua kalis to be step wise, starting with simple tasks, such as painting and cutting, and progressively handling more advanced and difficult tasks like welding and soldering. With this system of master teaching apprentice in the way that he (usually) was taught, there has been little infusion of new technology and new designs into the Jua Kali (Ng'ethe & Ndua, 1992). One way to overcome this was through the use of regular seminars and exhibitions located close to the jua kali sites for the purpose of encouraging "skill innovations, sensitization to new or changing business trends..., administration of Jua Kali business, and boosting Jua Kali business" (Twoli & Maundu, 1994).

Finally, a common finding in the researches done on this informal sector is that those involved in the sector have little background or understanding about how to do business, (Ng'ethe & Ndua, 1992; Oirere, 1996; Twoli, 1992; and Maundu, 1994). Twoli and Maundu (1994) recommended that a forum be developed to assist Jua Kali artisans in such skills as "general record-keeping skills, sales and accounting skills". To this list, Twoli (1992) added "improved public relations and effective supervisory techniques".

In general, Swainson (1993) found that in the informal sector, there were a number of approaches to indigenous apprenticeship systems which include the extension model, day release at formal VT institutions, and community development. He concluded that it "is widely agreed that training interventions in

the informal sector are not likely to be successful unless all aspects of the support package are carefully integrated, i.e., credit, technical and managerial".

From the above discourse, it is evident that most of these studies focused on the challenges facing TVET in relation to learners and institutional aspects in the community. There is also some assertion on its effectiveness in terms of skills development for the trainees either in TVET institutions or in the Jua Kali sector. This study therefore sought to fill the gap of the effects of TVET on socio-economic development in Kenya.

2.5.3 TVET curriculum, policies and socio-economic development

Over the years, TVET had operated as a fragmented entity with a number of challenges emerging due to lack of specific policy instrument. Part of the reason for this state of affairs was that there had been no clear effort to integrate TVET into the national productivity and wealth creation process. The system had thus lacked a consistent framework to bring together the many players within the sector for purposes of developing a unified policy and harmonized standards. Sessional Paper No. 1 of 2005 outlines many positive aspects of reforms which needed to be addressed but was ambivalent about the current status and future development of technology education at primary and secondary levels (GoK, 2005).

In the absence of a national training policy framework and specific legislation for technical education in Kenya, skills development continued to be governed through various legislatives, key among them being the Education Act Cap 211 of 1968 revised in 1970 and 1981 (now repealed) and the Industrial Training Act Cap 237 of 1960, revised in 1983. The Education Act (1967) provided guidelines for establishment and development of learning institutions, their management,

administration, and curriculum development and teacher education. It was the main legal instrument that governed the TVET functions of the Ministries of Education and of Higher Education, Science and Technology under the Directorate of Basic and Technical Education. However, the 2012 education Act of Kenya outlined clearly the establishment of technical institutions including the establishment of the Commission for University Education (CUE). This act had separated clearly the roles of the universities and TVET institutions (GoK, 2012). The policy framework in this regard was clearer than in the previous years prior to Education Act 2012.

The Directorate of Technical Education is charged with the overall responsibility for the administration, supervision and regulation of the provision of vocational education and training including curriculum development, and regulation of private training providers. The Education Act provides mainly for primary and secondary education, with very little reference to TVET institutions which it addresses as schools. Training in Universities is provided for under the respective Universities' Acts. The 2012 education act saw the establish of CUE which was entrusted with the sole responsibility of overseeing the establishment and running of all universities in Kenya.

The Industrial Training Act under the Ministry of Labor and Human Resource Development provides for the appointment of the Director of Industrial Training and also establishes the National Industrial Training Council (NITC) which is a tripartite body. The functions of the Directorate of Industrial Training include training and certification of artisans, collection and management of training levy fund, administration of the apprenticeship and indentured learner ship schemes,

Industrial attachment scheme and administration of trade testing and certification system. Under the NITC the Act establishes Eleven Sectoral Training Committees of 15 members each to advise on industrial training matters regarding their respective sectors.

The Industrial Training Act promotes training for industry through Industrial Training levy fund which was used to reimburse contributing employers training costs incurred in training their employees. Currently, the fund does not support training for students who are not employees of training levy contributors, yet these students constitute over 95 percent of the entrants to the skills labour market and mostly from TVET institutions.

On the other hand, the KASNEB Act empowers the board to conduct examinations and certification in some business career fields such as accountancy while the KNEC Act provides for the administration of examinations and certification in schools and institutions outside the university (GOK, 1978). The conduct of national and other institutional examinations are not well coordinated due to the unchecked proliferation of other local and external examination bodies besides KASNEB and KNEC. The mandate granted to some other organizations and institutions to conduct their own examinations and award certificates makes credit transfer difficult as far as TVET graduates are concerned. The Kenya National Examinations Council also does not have sufficient capacity and expertise to efficiently and effectively handle TVET Examinations. Also there are other statutes which establish sector related TVET institutions such as Kenya Water Institute, Medical Training Colleges and Cooperative College of Kenya.

Other institutions fall under ministries as departments such as Kenya Institute of Survey and Mapping (KISM), Kenya Institute of Highways and Building Technology (KIHBT) and Agriculture and Livestock Training Institutes. There were also private colleges which had been gazzetted to develop, teach, examine and certify their own training programmes in away similar to universities and yet they lacked coherent internal quality assurance mechanisms comparable to university senates.

Some institutions had public servants in their service while others had staff posted by the Teachers Service Commission. In some instances, such institutions had State Corporations staff in their service. Support departments such as Teachers Service Commission did not adequately address TVET staffing issues. Private colleges drew their staff from various sources with cost minimization as a major consideration. Therefore many of their teachers possess only basic qualification, lack pedagogy skills and are often engaged on part time basis.

According to the Kenya Education Sector Support Programme, (KESSP, 2005) the main aim of public investment in the TVET subsector was to enhance skills development for increased productivity in order to stimulate socio-economic growth and development as well as employment creation. This aim is relevant to this study because the study sought to establish the effects of TVET on socio-economic development in Kenya. KESSP identified the following TVET objectives in Kenya; provision of increased training opportunities for school leavers that will enable them to be self-supporting; developing practical skills and attitudes which will lead to income earning activities in the urban and rural areas; providing technical knowledge, vocational skills and attitudes necessary for

manpower development and produce skilled artisans, craftsmen, technicians and technologies for both formal and informal sectors.

In light of the above objectives, the government committed itself to the following two major strategies, among others, in order to address the key policy issue; first, continuously take stock of the existing and anticipated demands for skilled labour in the short term and in the long run and; secondly to ensure the provision of relevant training and undertake regular labour market skills survey and training needed assessment in collaboration with the industry in order to develop manpower development plans and provide appropriate feedback in curricula design and development.

From this discourse, it is evident that TVET policies in Kenya are a major hindrance to its effective development and consequently the effect of TVET on socio-economic development. There are very many players in TVET matters and lack of coordination among them therefore impedes its effectiveness. This also brings in unnecessary competition and duplication of course by TVET institutions. There is therefore need to streamline all TVET policies as envisaged in the TVET Bill 2012 in order to ensure that proper coordination is achieved.

2.5.4 Public and Private TVET institutions and quality of TVET programmes

The Government of Kenya is committed to increasing investments in TIVET, including Youth Polytechnics, promotion of private sector investments in the development of TIVET facilities by application of appropriate incentives, carrying out comprehensive national audit of public and private TIVET institutions biannually (MoE, 2008). This policy objective takes into account the comparative strengths of private and public institutions with the aim of reducing wastage through unnecessary duplication. It is important to note that

there are more private TVET institutions than public ones in Kenya. The private ones thrive on the business synergy where they advertise their courses in order to attract more clients in the name of students. With regard to performances between private and public TVET institutions in terms of quality, this would form the basis for another study. This aspect was outside the scope of this study.

The TVET catchment population includes youth who, for some reasons do not enroll in the regular education system either at primary, secondary or university levels. TVET programmes are offered in Youth Polytechnics (YP), Technical Training Institutes (TTIs); Institutes of Technology (ITs) and in National Polytechnics. In 2012 two national polytechnics were converted to universities. There are also other institutions that offer TVET programmes spread across government ministries as well as private institutions. Graduates from TVET institutions are awarded certificates and diplomas in various disciplines (MoE, 2008).

The choice by students to either join public or private TVET institutions mainly depend on the cost of the course they are to pursue. In most cases the private TVET institutions will charge less fees compared to the public TVET institutions in order to attract more students. Hence the aspect of cost does influence students' perception on choosing which category of institution to attend. On the other hand most students would prefer public institutions which are formally recognized by the government and hence credible in offering various TVET courses. The public institutions are also known to have adequate and modern training equipment since the government has increased funding (KES, 2012) unlike some private

institutions which have to rely on tuition fees paid by students. There are various reasons given by students for either choosing to be trained in either public or private TVET institution.

2.6 TVET for Human Capital Development and Employment in Kenya

The National Development Plan of 1994 appropriately pointed to the necessity of having good data on employment and personnel supply and demand in order to make good decisions in terms of development. It pointed to the necessity of providing information on the requirements, availability, and distribution of human resources. This would be based on the understanding of the present and future situation regarding supply and demand of manpower and their implications. Because of this perceived importance, the Plan committed the Ministry of Labor and Manpower Development and Organizations to carry out periodic and regular manpower and production surveys to generate the necessary database to facilitate a comprehensive manpower planning process.

Manpower policies were to be formulated in relation to national needs, and appropriate educational and vocational training systems were to be planned. In spite of such a commitment, it appears that, at the end of the Plan's term, no such report or databases had been developed. A library search has produced no such report. A visit to the library of the Central Bureau of Statistics also confirms that the most recent Labor Force Survey and the most recent Manpower Planning report were both published in 1988, much too old to be of relevance in planning, almost twenty years later.

Because of problems associated with such projections, however, failure to provide such a report may not be significant. Kraak (1993) warned that manpower planners cannot accurately forecast future occupational requirements. This was

because of the high degree of substitutability among related occupations, fast moving technologies, and unpredictable fluctuations in socio-economic production. Short of such statistics, however, the Plan, itself, did contain information on employment and expected changes in employment. However, it was not at all clear, as Kraak (1993) warned, as to the source of the projections, except that they appeared to be intuitive on the part of the report writers. They claimed, for example, that "the modern sector of the Kenyan economy was only to absorb a small portion of job entrants" (Republic of Kenya, 1994). On the other hand, the informal sector had been expected to play a major role in job creation for many of the new entrants into the labor market. There had been need to develop more advanced technical and entrepreneurial skills for those who had the means to start their own businesses.

With regard to retiring professionals, they needed management skills like business planning, record keeping, cost accounting, procurement and inventory control, market analysis, communicating, supervision and credit management for their entrepreneurial engagements. All these should be preceded by training needs assessment to determine among other factors the target group, level of training, nature of skills and facilities for training (Republic of Kenya, 1994).

In general therefore according to the (MHES&T ,2008) the TVET community questions the continued practicality and usefulness of segmenting learning and education into various categories, academic, skills training, TVET, formal, non-formal. Education is a lifelong process through which one learns how to learn, learns how to do, learns how to live, learns how work productively with other people and learns how to be. What comes quickly to mind is the profile of the ideal citizen/worker which may be described as one who:

- i. applies basic or advanced knowledge to make things work for better quality of life.
- ii. is capable of seizing the socio-economic opportunities which the global environment is presenting
- iii. demonstrates multiple 'literacies' in general intellect through expression/demonstration of language skills including foreign languages, independent and critical thinking
- iv. has developed the capacity to create and take advantage of opportunities to control, improve, maintain and promote physical, mental, social and spiritual well-being; and to contribute to the health and welfare of the community and country.
- v. nourishes in him/her and in others, the full development of each person's potential without gender stereotyping; class stereotypes and embraces differences and similarities between females and males as a source of mental strength.
- vi. has an informed respect for the diversity of our cultural heritage and that of others.

In this regard, there is a radical transformation in education worldwide at all levels where education is now being measured in terms of standards, learning outcomes and competencies. Most jobs profiled either in job descriptions or in classified job advertisements, set out in great detail the specific competencies required for every job delineating all its three components, namely, knowledge, skill and attitude or in other words, the cognitive, psychomotor and the affective domains of learning.

It is this reality to which dictates that TVET institutions in this country have to embrace the philosophy and practice of competency-based education, training and certification. This approach ensures that every certificate issued is a guarantee of the holder's competence to perform at whatever level of the occupation anywhere in the world. Qualification must reflect and match competence and specific learning outcomes. In addition, basing training curricula, assessment and certification on internationally validated occupational standards, renders the qualification holder internationally competitive in a particular field or occupation (MHES&T, 2008).

In order to have a modern, competitive, world class workforce, we need to adopt a philosophy of training which promotes universal access, quality, relevance and equity within TVET. We further need a TVET system, which is driven by flexible and dynamic curricula derived from a broad common consensus as to the profile, competencies and learning standards, the products of the system must meet. The existing subject based and examination driven syllabus-driven system is no longer tenable. The TVET community advocates and is able to contribute significantly toward the creation of more holistic learning outcomes-based curricula based on standards derived from the workplace. This approach widens access to learning and provides a comprehensive profile of the graduate, not just the subjects he or she has earned, therefore, enabling potential employers to make informed decisions about graduates on the basis of their competencies, attitudes and work ethics.

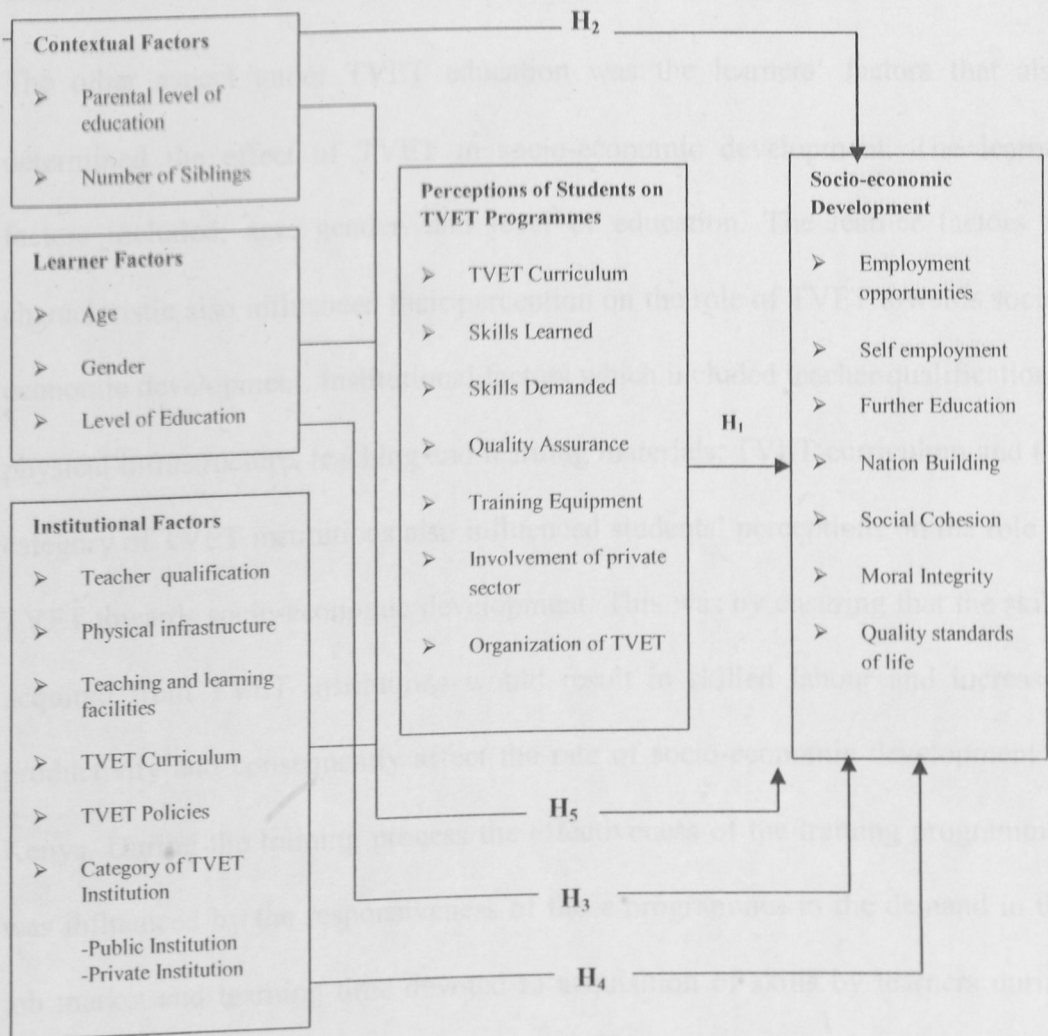
The Kenyan TVET community (trainers, trainees and practicing entrepreneurs) in its efforts to address this challenge has to confront the stark realities of the current

shortcomings in the prevailing philosophy and practice of training in relation to the socio-economic aspirations of the country.

2.7 Conceptual framework

The study formulated a conceptual framework. The conceptual framework in Figure 2.1 shows the relationship between TVET and socio-economic development in Kenya. The figure shows the relationship of the variables identified for the study. The contextual factors, learner factors and institutional factors were the independent variables. The Socio-economic development was the dependent variable. The assumptions in this conceptual framework were that: the independent variables, that is, contextual factors, learner factors and institutional factors influenced students' perceptions on TVET and its role on socio-economic development.

Figure 2.1. Relationship between students' perceptions on TVET and socio-economic development



Key

H₁ Hypothesis 1

H₂ Hypothesis 2

H₃ Hypothesis 3

H₄ Hypothesis 4

H₅ Hypothesis 5

Under the TVET education programmes three main aspects namely contextual factors, learners' factors and institutional factors were identified for this study. An important aspect in TVET was the contextual factors which included social cultural factors measured by parental level of education and the number of siblings in the family. These contextual factors influenced the role of the parents

in the provision and support of TVET education as well as students' perceptions on the role of TVET on socio-economic development.

The other aspect under TVET education was the learners' factors that also determined the effect of TVET in socio-economic development. The learner factors included; age, gender, and level of education. The learner factors or characteristic also influenced their perception on the role of TVET towards socio-economic development. Institutional factors which included teacher qualifications, physical infrastructure, teaching and learning materials, TVET curriculum and the category of TVET institutions also influenced students' perceptions on the role of TVET towards socio-economic development. This was by ensuring that the skills acquired from TVET institutions would result in skilled labour and increased productivity and consequently affect the rate of socio-economic development in Kenya. During the training process the effectiveness of the training programmes was influenced by the responsiveness of these programmes to the demand in the job market and learning time devoted to acquisition of skills by learners during their training. The process of training should therefore ensure quality training for the learners.

Therefore the conceptual framework showed the relationship between students' perception on TVET towards socio-economic development. This meant that students' perception was influenced by contextual, learner characteristics and institutional factors which in turn influenced socio-economic development. However each of these factors affected socio-economic development independently. The effects of all these factors were tested using regression analysis when testing the hypotheses identified for this study.

2.8 Summary of Reviewed Literature

From the reviewed literature, it was evident that several aspects of TVET had been addressed by various scholars, government organizations, institutions and other stakeholders. The reviewed literature revealed that contextual factors, learners' factors and institutional factors affected the development of TVET in several ways. The global village of scholars seems to agree that the role of TVET in socio-economic growth and development cannot be underscored.

The study therefore established that issues such as the role of TVET in socio-economic development, challenges facing TVET, importance of TVET in skills acquisition, among others had been widely addressed. Governments on their part had made a lot of efforts in ensuring TVET acquires the recognition it deserves especially in the education systems by way of formulating and implementing government policies on TVET.

In this regard, there was general consensus from the reviewed literature that TVET plays a major role in the economy especially in the development and production of middle level manpower required by the economy at large. This study therefore sought to establish the extent to which students felt that TVET contributes to socio-economic development in Kenya.

RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains research methodology used in this study. This comprises the study design, target population, sample and sampling procedures, research instruments, pilot study, and data collection procedure and data analysis techniques.

3.2 Study Design

The study used mixed methods of research. This included descriptive survey and regression analysis. Descriptive survey involves measurement, classification, analysis, comparison and interpretation of data. This was because descriptive survey is generally used as a method in studies which have individuals as units of analysis. In this regard the data required for addressing the study objectives and research questions suits this method. Ary, Jacobs and Razarich (1996) defined descriptive survey research method as a technique in which detailed information concerning a social phenomenon is gathered by posing questions to respondents. The outcome of such investigation makes it possible to find explanations of the social phenomenon in question. Mugenda and Mugenda,(1999) explains that descriptive designs answers questions concerning current status of the subjects in the study, that is , possible behaviour, attitudes, values and characteristics. Regression analysis was used to test the hypotheses formulated for the study. The hypotheses were tested using 5percent (0.05) level of significance.

The study design was chosen because it provided an effective means to contextualize, interpret and understand the trainees' and trainers' views about

factors (qualitative valuables) that affect TVET and its role in socio-economic development of the country. This study design was also open and flexible, according to Bogdan and Biklen, (1989), because it helped to approach and successfully managed the inherent complexity of the interactions of students learning environment. More specifically it was more useful in measuring peoples' views, attitudes and orientations in a large population. As such mixed method was found to be suitable for this study.

3.3. Target Population

The target population for this study included over 24,000 trainees/students in 10 public Technical Training Institutions (TTIs), and 2 public Polytechnics all of which are located in the different parts of Kenya. The study also targeted over 1200 lecturers in the target public TVET institutions, in this case each institution with an average of 100 lecturers. In the private TVET institutions five institutions were targeted with a population of over 10,000 students. In the private TVET institutions the study targeted over 500 lecturers with each institution having an average of 50 lecturers. Five human resource officers in 5 industries that are consumers of TVET graduates were also targeted in this study. Three officials in the Ministry Higher Education, Science and Technology (MHES&T) and two officials in the Ministry of Industrial Development (MID) were also considered in this study in regard to policy issues. Subjects for the study were sampled from the target population.

3.4 Sample and Sampling Procedures

The study used both simple random and stratified sampling procedure to select the appropriate sample. Leedey and Ormrod, (2001) argue that the larger and more homogenous the population, the smaller the percentage one needs to select in

order to have a representative sample. According to Frankel and Wallen (1973) random sampling ensures that each element within the accessible population has equal and independent chance of being selected. Thus in this study, this method of sampling was found to be most suitable since it involves a finite accessible population.

This method was used due to the varied geographical location of the TVET institutions which had a bearing on the study. In regard to (Province) now County representation, stratified sampling was used and TVET institutions were sampled out of the (8 Provinces) now 47 Counties that form the republic of Kenya and assumed to provide a representative sample of the (Provinces) now Counties. However since the location of the TVET institutions was not based on the County boundaries in the current constitutional dispensation, but the choice aimed at ensuring that the country was more geographically represented than the Counties. In regard to TVET institutions out of the 25 public TVET institutions, 12 were sampled using quota sampling with the expert consent of the supervisors. These included 10 TTIs and the 2 polytechnics. The private TVET institutions were all sampled from Nairobi (Province) now County. Therefore the institutions sampled for this study were representative of the whole country.

The subjects from TVET institutions were sampled by use of simple random sampling method. The study sampled 40 students from each of the 12 public TVET institutions and the total sample was 480. In the 5 private TVET institutions the study sampled 20 students and the total sample was 100. The total sample for the students from both public and private TVET institutions in this study was therefore 580. With regard to lecturers, the study sampled 5 lecturers from each of the TVET institutions. The total sample for the lecturers was 85.

Three officials from the ministry of education and two from the ministry of Industrial Development in relevant departments were also sampled. Five heads of departments/human resource officers were sampled from each of the industries sampled for this study. The total sample of the study is summarized in table 3 below;

Table 3.1: Selected Institutions Sample for the Study

Institution	No. Of Institutions	Students	Trainers	Heads of Department
Public TVET Institutions	12	480	60	-
Private TVET Institutions	5	100	25	-
Industries	5	-	-	5
Government Ministries	2	-	-	5
Totals	24	580	85	10

3.5 Research Instruments

The study used two sets of research instruments that is, questionnaires and interview schedule. However these were supplemented by documentary review where necessary. One questionnaire was filled by the student trainees and the other by the lecturers/trainers. The interview schedule was used for officials in the government ministries institutions and human resource managers in the industries. In both cases, demographic and background information of the respondents was sought. This was section 'A' of the questionnaire. Section B of the questionnaire dealt with the issues to investigate effects of TVET on socio-economic development in Kenya. The interview schedule was used to elicit information from ministry officials and human resource officers in the industry on effects of TVET on socio-economic development and on policy matters.

The questionnaires had both structured and open-ended questions. This was to enable the subjects to respond more effectively and efficiently to the study questions and also enable the researcher gather adequate information on the effects of TVET on socio-economic development in Kenya. The interview schedule was structured in form of probing questions that were answered in a discussion with the respondents. All the items in both the questionnaires and the interview schedule were based on the research objectives and research questions. This was to ensure that the study remained focused.

3.6 Pilot Study

Before the research instruments were used to generate data for the study, they were discussed with the supervisors. However, a pilot study was conducted in two TVET training institution and one industry. These institutions were outside the sample identified for the study. The purpose of the pilot study was to pre- testing the research instruments in order to determine the instruments Validity and Reliability. The researcher conducted the pilot study by administering the questionnaire and collecting them after they had been filled. Corrections were effected in the final draft of the instruments together with the suggestions from the supervisors. The sample for the pilot study was 60 trainees, 5 trainers. At this stage simple random sampling was used.

The Validity of the instrument was done by use of content validity in the following ways; establish whether the questionnaires provided/elicited data needed for the study as anticipated; assessed and identified any problems respondents were likely to encounter in completing the questionnaire that may not have been foreseen during development of the instruments; verified that the

questionnaires were clear and understood by the respondents; determined whether there were ambiguities in any question item; indicated whether research objectives and questions were appropriately addressed; indicated whether the type of data collected would be meaningful in relation to the research objectives and questions thus enhance validity of the instruments.

The Reliability of the instruments was determined by use of the Cronbach's Alpha test of variable reliability from the SPSS. The reliability coefficient was determined to be 0.813 on all standardized items. This coefficient was proved to be accurate since the standard Cronbach's Alpha coefficient is usually 0.812(SPSS, 2010). This meant that the measurement of the effects of TVET on socio-economic development with the above parameters was within acceptable standard.

3.7 Data Collection Procedure

The researcher made the necessary arrangements to obtain the relevant research permit from the National Council for Science and Technology (NCS&T) under the Ministry of Higher Education Science and Technology (MHES&T). Thereafter the researcher made visits to the respective institutions identified for this research for coordination purpose with the respective authorities and explained the purpose of this research. The principal researcher administered the questionnaire research instruments with the help of two research assistants. Preliminary training to the research assistants was done so as to enable them conceptualize the research undertaking effectively. In regard to the interview schedule research instrument, the principal researcher administered them himself since they were few and also sought to ensure that the information obtained would

be availed in details as much as possible. After the actual field work, all the research instruments and reports were assembled for data cleaning, coding and subsequent data analysis.

3.8 Data Analysis Techniques

The purpose of the study and the formulated research objectives and research questions lead to collection of partly quantitative and partly qualitative data. Patton (1990) says that massive qualitative data collection from questionnaires and interview schedules needs to be organized into significant patterns in order to reveal the essence of data. In this regard data collected was to be analyzed to derive descriptive statistics. This meant that the collected data was then appropriately coded and entered in the computer and the Statistical Package for Social Sciences software (SPSS version 19) was used to analyze the data. The Cronbach's Alpha test of variable reliability from the SPSS was used to determine the relevance coefficient at 0.813 on all standardized items. This coefficient was proved to be accurate since the standard Cronbach's Alpha coefficient is usually 0.812 (SPSS, 2010).

The hypotheses formulated for this study was tested using the 0.05 or 5 percent level of significance. This level of significance was considered appropriate for this study because the population was large in relation to the sample proportion. The test method of one-sample z-test was used to determine whether the hypothesized population proportion differed significantly from the observed sample proportion. Regression analysis was used to determine the relative contribution of the contextual, learner characteristics and institutional factors to students' perception. Further contribution perception of students' towards the role of TVET programmes on socio-economic development was determined.

The common interpretation of the computed regression parameters as measuring the change in the expected value of the dependent variable when the corresponding independent variable is varied while all other independent variables are held constant was not fully applicable when a high degree of correlation exists. This was due to the fact that with highly correlated independent variables it was difficult to attribute changes in the dependent variable to one of the independent variables rather than another. The following were effects of fitting a function with high correlated independent variables:

- i) Large changes in the estimated regression parameters may occur when the variable was added or deleted, or when an observation was added or deleted.
- ii) Individual tests on the regression parameters may have shown the parameters to be non-significant.
- iii) Regression parameters may have had the opposite algebraic sign as may not be expected from theoretical or practical considerations.
- iv) The confidence intervals for important regression parameters may have been much wider than would otherwise be the case. The solution to these problems may have been to select the most significant of the correlated variables and use it only in the function.

However it was important to note that the correlation coefficients indicated the degree of linear association between variables. Variables may be highly related in a nonlinear fashion and still have a correlation coefficient near 0.

3.9 Ethical Considerations

The study observed ethical considerations especially during data collection. The researcher sought permission from the relevant authorities starting with the NCS&T who issued the research permit. The researcher also instructed the research assistants that ethics during data collection should be observed. The researcher therefore explained to the research assistant the ethical requirements during research. In the respective institutions, the researcher sought consent from the relevant authorities and the potential respondents before administering the research instruments. The researcher further assured the respondents that their identity confidentiality would be maintained and the information they provided would only be used for the purpose of the research. Once this was understood, then the researcher and the research assistants went ahead to administer research instruments.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the research findings of this study. Data was collected by means of questionnaires that were administered to both the students and lecturers from selected public and private technical training institutions in Kenya. Statistical analysis of the data is presented and interpreted to unearth the relationship between the variables studied and effects of technical education on socio-economic development in Kenya. Descriptive statistics was used to analyze data. In addition hypotheses were tested using regression analysis at 0.05 or 5 percent level of significance. Data analysis was presented on the basis on the research objectives and the corresponding research hypotheses. However, first the analysis of respondents' characteristics was made.

4.2 Respondents Sample Size

The nature and characteristics of the respondents in this study was based on the gender of students and the lecturers, students' age, lecturers' teaching experience, courses pursued by students, and lecturers' professional qualifications and category of TVET institution.

The study established the response rate of respondents by gender as indicated in Table 4.1(a).

Table 4.1(a): Demographic data of students, lecturers and category of TVET institutions

Demographic Data		Students		Lecturers	
		n	%	n	%
Response rates by Gender	Male	312	56.5	48	64.9
	Female	240	43.5	26	35.1
	Total	552	100	74	100
Age	15-19 year	20	3.6	-	-
	20-24 years	240	77.9	-	-
	25-29 years	91	16.5	-	-
	30-34 years	10	1.8	-	-
	Over 35 years	1	0.2	-	-
	Total	552	100		
Level of Education of Students	O Level	531	96.2		
	A level	21	3.8		
	Total	552	100		
Category of Institution	Public	437	79.2	59	79.7
	Private	115	20.8	17	20.3
	Total	552	100	74	100

The information captured in Table 4.1(a) shows a total of 552 out of 580 students participated, filled and returned the questionnaires and this formed 95.17 percent return rate. Male student respondents constituted 56.5percent while the female student respondents constituted 43.5percent. The study further sought to establish the age of the students. This was done in order to determine the average age of students in TVET institutions. The study indicates that 77.9percent of the students are aged between 20-24 years. This is a clear indicator that most of them had joined technical training institutions immediately after completing secondary school level of education. Another 16.5percent were aged between 25-29 years. This is an older group who could have stayed out of school for some time and later decided to join technical training institutions. The study also established that 79.2percent of the students were from public technical training institutions and 20.8percent were from private technical training institutions respectively. The study further established that 96.2 percent of the students had 'O' level education and 3.8 percent had 'A' level education.

As far as participation of the lecturers is concerned a total of 74 out of 85 lecturers filled and returned the questionnaires and this formed 87.05 percent return rate. Male lecturers constituted 64.9percent while female lecturers constituted 35.1percent. The return rate of questionnaires by lecturers was lower compared to those of students. This was attributed to the fact that most of them were busy teaching and might not have considered filling the questionnaires a priority. The study also has revealed that 79.7percent and 20.3percent respectively of the lecturers were from public and private technical training institutions.

The study again solicited information on lecturers' professional qualifications and their teaching experience in TVET institutions. This information is captured in Table 4.1(b).

Table 4.1(b) Lecturers' Qualifications and Teaching experience

Item Description		n	%
Lecturers' Qualification	Diploma in TE	32	43.2
	B.Ed Technology	9	12.2
	B.Ed (Arts)	24	32.4
	B.Ed (Science)	9	12.2
	Total	74	100
Lecturers' Teaching Experience	1-5 years	23	31.1
	6-10 years	13	17.6
	11-15 years	8	10.8
	Over 15 years	30	40.5
	Total	74	100

As indicated in Table 4.1(b), it is evident that 43.2percent of the lecturers had a Diploma in Technical education. This meant that most of them were likely to have been trained at Kenya Technical Teachers College (KTTC). The KTTC has for a long time been the major producer of technical teachers in Kenya. Lecturers who had a degree in Education technology in the sample constituted 12.2percent. These graduates are likely to have been educated at Moi University since it has been offering a bachelors degree in education technology since its establishment

in 1985 as Kenya's second public university. The rest 46.6percent had a Bachelor of Education (Arts) forming (32.4percent) and Bachelor of Education (Science) with (12.2percent). Overall 53.4percent of the lecturers had training in technical education and this was a good indicator that they could relate well the effects of technical education on socio-economic development, since they had taught these courses for over 15 years.

The study also sought information on lecturers' teaching experience. The analysis in Table 4.1(b) showed that 40.5percent of the lecturers had taught for over 15 years. This seemed to suggest that a good proportion of them had a good understanding of the technical education issues and its effect on socio-economic development in Kenya. Another 31.1percent had taught for a period between 1-5 years. This appears to imply that these were new graduates. This may be good for succession management and also infusion of new ideas by recent graduates from college.

After analyzing bio data for both students and lecturers, the study sought to establish the courses which students pursued in targeted TVET institutions. This was because there were various courses offered in TVET institutions. The analysis showing courses offered in TVET institutions is summarized in Table 4.2.

Table 4.2: Courses Pursued by Students

Course Pursued	Frequency N	Percent %
Business	124	22.5
Electrical Engineering	74	13.4
ICT	70	12.7
Applied Sciences	49	8.9
Food and Beverage	47	8.5
Mechanical Engineering	46	8.3
Building and Construction	45	8.2
Accounting	27	4.9
Secretarial	22	4.0
Institutional management	21	3.8
Motor Vehicle Mechanic	14	2.5
Tourism and Hotel Management	11	2.0
Agriculture	2	0.3
Total	552	100.0

The information in Table 4.2 revealed that 22.5 percent of students who participated in this study pursued various business courses. This was followed by 13.4 percent of the students who were pursuing electrical engineering course. Another 12.7 percent of the students pursued Information Communication and Technology (ICT). However, other courses such as Accounting, Secretarial, Food and Beverages, Institutional Management, Applied Sciences, Mechanical Engineering, Motor Vehicle/Automotive Engineering, Building and Construction, Agriculture and Tourism and Hotel Management each constitute less than 10 percent of all the student responses. The study established that Business courses, Electrical Engineering and ICT seemed to be most popular among the students in TVET institutions. Considering the shortage of salaried employment these courses seemed to be appropriate for imparting self-employment skills for job creation. They were also relevant to the realization of industrialization and making Kenya a medium income country by the year 2030 (GoK, Vision 2030).

4.3. Data Analysis by Study Objectives and Hypotheses

After dealing with the analysis of demographic data, attention was focused on the analysis of data on each of the research objectives and corresponding hypotheses. This involved first, the analysis of students responses and, later, that of the lecturers.

4.3.1 Students' Perception of TVET Programmes on Socio-economic Development

The study sought to establish the overall perspective of students' perceptions on the role of TVET programmes on socio-economic development. The first objective was to assess the effects of TVET programmes on students' perceptions towards their role on socio-economic development. This was further to answer the first research question: How do TVET programmes influence students' perceptions on their role towards socio-economic development?

Testing of Hypothesis 1

The first hypothesis stated that; H_1 : TVET programmes do not significantly influence students' perception towards their role on socio-economic development. The regression analysis for testing of the first hypothesis on students' perception on TVET programmes on socio-economic development is presented in Table 4.3.

Table 4.3: Students' perception of TVET programmes on socio-economic development

				Change statistic				
R	R Square	Adjusted R Square	Std Error of the Estimate	R Square Change	F Change	df1	df2	Sig.F Change
0.425 ^a	0.180	0.179	0.5522	0.180	120.036	1	546	0.000

Independent Variable: TVET Perception

Dependent Variable: Socio-economic Development

The results from Table 3 were summarized by the following regression equation; $Y = a + bX$; where Y = value was the dependent variable (socio-economic

development) that was being predicated in this study. The value (a) was the constant in the regression analysis equation. The value (b) was the coefficient of X, while X was the value of independent variable. The independent variable for hypothesis H₁ in this study was students' perceptions towards the role of TVET on socio-economic development. This meant that X=students' perception predicted the effect of TVET on socio-economic development.

Table 4.4: Analysis of contextual factors

Therefore, the results revealed that there was a significant relationship between students' perception on the role of TVET programmes on socio-economic development. This was supported by the fact that the p value was less than 0.05 F (1,546) = 0.18, 0.00 = p < 0.05). Since R² = 17.9 it therefore, meant that 17.9 percent of the students felt that TVET programmes contribute to socio-economic development. This therefore meant that the hypothesis was rejected. The hypothesis was rejected because the significant level from the regression analysis was = 0.00 < p = 0.05. This therefore meant that the study had established that only 17.9 percent of the variables in TVET identified in this study could predict the influence on socio-economic development. These findings concurred with those of Ng'ethe & Ndua (1992).

4.3.2 Effects of contextual factors in TVET on socio-economic development in Kenya.

The study sought to address the second objective which expected to determine students' perception on the influence of contextual factors on the role of TVET programmes on socio-economic development. This was further to answer the second research question; how do contextual factors influence students' perception on the role of TVET towards socio-economic development? The

hypothesis on this objective too postulated that: H₂ contextual factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development.

Contextual factors in this study comprised students' family background in terms of the parents' level of education and the number of siblings in their families. The information is summarized in Table 4.4.

Table 4.4: Analysis of contextual factors

Item Description		Frequency n	Percentage %
Fathers' Level of Education	Primary	75	13.6
	Secondary	120	21.7
	College	225	40.8
	University	132	23.9
	Total	552	100
Mothers' Level of Education	Primary	107	19.4
	Secondary	198	35.8
	College	193	35.0
	University	54	9.8
	Total	552	100
Number of Siblings	1-2	69	12.5
	3-4	218	39.5
	5-6	153	27.7
	Over 7	112	20.3
	Total	552	100

The results in Table 4.4 revealed that, 40.8percent of the students indicated that their fathers had a college level education, followed by 23.9 percent with university education, 21.7percent with secondary education, and 13.6percent with primary education. With regard to education level of mothers, 35.9percent of the students indicated their mothers had secondary education, followed by 35.0 percent with college education, 19.4percent with primary level of education, and 9.8percent with university education. It was therefore evident that overall 40.8 percent of the fathers had acquired college education and 23.9 percent university education, while 35.0percent of the mothers had college education and 9.8percent university education.

This meant that, since majority of the fathers (40.8 percent) had acquired college and 23.9 percent had university education it could be deduced that they had financial means to support their sons and daughters to pursue college education, in this case technical education. On the other hand, it also implied that, although 35.3percent of the fathers had either primary or secondary education and 55.2percent of the mothers had either primary or secondary education they would also support their sons and daughters to pursue college education.

The level of education was also an indicator of the ability of the parents to engage in socio-economic activities that would generate income. This would be either in form of salaried employment or self employment. This also meant that parents had better awareness levels about the role of TVET in promoting socio-economic development and this could have been achieved through education. Since most parents valued the socio-economic independence of their children, then they would do this by supporting them to go for technical courses. This investment is a clear indicator that parents supported technical education. By extension, they demonstrated that technical education did affect socio-economic development in Kenya, just as it affects the lives of their children when they engage in income generating activities they are likely to put into practice the technical skills acquired from technical training institutions. These findings concurred with those of Kingombe, (2011) who indicated that often parental level of education did influence students' perception.

The study also sought to establish the number of siblings students in TVET institutions had. The information on the number of their siblings captured in Table 4.4 revealed that, 39.5percent of the students indicated that they had 3-4 siblings, followed by 27.7percent with 5-6 siblings, 20.3percent with over 7 siblings and

12.5percent with 1-2 siblings. This meant that, overall 87.5percent of the students came from families with more than 3 siblings. This in effect meant that these students were not greatly affected by the number of their siblings in terms of them accessing and pursuing technical education. At the same time, it also meant that most parents in the study regardless of the size of the family were willing to take their children to technical education, where they would acquire vocational skills perhaps in order to enhance their socio-economic independence as they would get job opportunities either as salaried or self employed.

Overall therefore, the contextual factors by extension did affect socio-economic development. This could be attested by the fact that, when families supported their children to pursue technical courses, they did so because of the socio-economic gains attributed to these courses.

Testing of Hypothesis 2

In order to determine the influence of contextual factors on students' perception on TVET towards socio-economic development, the second hypothesis was tested. This hypothesis stated that; **H₂**: Contextual factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development. The results of regression analysis done to test this hypothesis are contained in Table 4.5(a).

Table 4.5(a)

Model of contextual factors on socio-economic development

Model	R	R Square	Adjusted R Square	Std. Error of the estimate estimate Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
	.072 ^a	0.005	0.000	0.3940	0.005	0.939	3	544	0.422	1.972

a. Predictors: (Constant), Number of siblings, Highest level of your father's education, Highest level of your mother's education

b. Dependent Variable: TVET Perception

The results from Table 4.5(a) were summarized by the following regression equation; $Y = a + bX$; where $Y = \text{Value}$ was the dependent variable (socio-economic development) that was being predicated in this study. The value (a) was the constant in the regression analysis equation. The value (b) was the coefficient of X, while X was the value of independent variable (contextual factors). The independent variable for hypothesis H₂ in this study was contextual factors and their influence on students' perception towards the effect of TVET on socio-economic development. This meant that X=contextual factors predicted the effect of TVET on socio-economic development.

Therefore, the results in Table 4.5(a) indicated that the significance level was at Sig.F=0.422 and thus greater than $p=0.05$. $F(3,544) = 0.00$, $p < 0.05$, $R^2 = 0$ percent. This meant that the parental level of education and the number of siblings indentified in this study could not predict students' perception on the role of TVET programmes on socio-economic development. This therefore, meant that contextual factors on students' perception on TVET towards socio-economic development were not significant. Hence, the hypothesis was accepted. Since

$R^2=0$ it meant that parental level of education and the number of siblings did not explain the variation of students' perception on the role of TVET on socio-economic development. The results disagreed with the findings of Abd, H.A, et al (2011).

Hypothesis 2 further sought to determine the relative importance of contextual factors in TVET on socio-economic development. The results are contained in Table 4.5(b).

Table 4.5(b)
Relative importance of contextual factors on socio-economic development

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.114	.123		33.470	.000
Highest level of your father's education	-.055	.038	-.086	-1.442	.150
Highest level of your mother's education	.037	.041	.054	.893	.372
Number of siblings	-.025	.029	-.039	-.871	.384

Dependent Variable: Socio-economic Development

The analysis in Table 4.5(b) revealed that, father's level of education, mother's and number of siblings in a family in absolute terms were not significant to socio-economic development as indicated by the beta standardized coefficients. This seemed to suggest that the role of TVET programmes on socio-economic development from this perspective did not influence students' perception. However from the findings above it is evident that mothers' level of education would have had more influence on students' perception than fathers' level of education and the number of siblings in the family.

4.3.3 Learner factors in TVET and socio-economic development in Kenya

The third objective of this study sought to establish the effect of learner characteristics on the role of TVET programmes towards socio-economic development. This was in relation to the research question 3 that sought to ask; to what extent do learner characteristics affect their perception on the role of TVET programmes towards socio-economic development? The hypothesis that addressed this objective stated that: H₃: Learner characteristics do not significantly affect their perception on the role of TVET programmes on socio-economic development.

The variables with regard to learners included age, gender and level of education at their entry in to TVET institutions are summarized in Table 4.6.

Table 4.6: Learner factors analysis

Item Description			
		n	Percentage %
Gender	Male	312	56.5
	Female	240	43.5
	Total	552	100
Age	15-19 year	20	3.6
	20-24 years	240	77.9
	25-29 years	91	16.5
	30-34 years	10	1.8
	Over 35 years	1	0.2
	Total	552	100
Student Level of Education	O Level	531	96.2
	A level	21	3.8
	Total	552	100

Information in Table 4.6 shows that 56.5 percent of the students were male while 43.5percent were female. These results were consistent with the current status of student gender participation in TVET institutions (MHES&T,2008). Further data in the table shows that 77.9percent of the students were aged between 20-24 years while 16.9 were aged between 25-29 years. Notably, only 0.2 percent of the

students were aged over 35 years. Also the table shows that 96.2 percent of the learners had O- level education while 3.8 percent had A- level education.

In order to understand the effect of learner factors on socio-economic development, the study sought to establish learners' views on the relevance, impact and influence of TVET on socio-economic development. These three aspects were used to elicit learners' perception on the role of TVET on socio-economic development in Kenya. After looking at these aspects, then the hypothesis 3 on the effect of learners' perception on the role of TVET on socio-economic development is then tested at the tail end of this section.

In response to relevance of TVET to socio-economic development, several parameters were put into perspective and students' responses sought on them. These parameters included; relevance of TVET to employment opportunities, self employment, further training, nation building, and standard of life. The scale of rating ranged from very irrelevant as the least rating to very relevant as the highest rating. The findings are shown in Table 4.7.

Table 4.7: Students' perception on relevance of TVET training programmes

Item Description	n	Very Relevant 5 %	Moderate Relevant 4 %	Fairly Relevant 3 %	Not Relevant 2 %	Very Irrelevant 1 %	Total Percentage %
Employment Opportunity	552	26.8%	43.7	22.6	3.6	3.3	100
Self Employment	552	36.1%	38.7	17.7	5.1	2.4	100
Further Training	552	42.2%	35.5	17.6	3.4	1.3	100
Nation Building	552	40.4%	37.7	19.0	2.0	0.9	100
Standard of Life	552	30.4%	40.6	20.8	4.7	3.4	100

As per the results presented in table 4.7, the study revealed that 26.8percent of the students indicated that TVET was very relevant to employment opportunities. Some 43.7percent of the students indicated that it was moderately relevant while 22.6percent indicated it was fairly relevant to employment opportunities. This is an indication that majority of the students took technical courses because they believed that TVET was an avenue for getting jobs in the labour market. Only 3.6 percent of the students indicated that TVET was not relevant to employment opportunities at all. This could be attributed to the fact that they may have chosen TVET courses against their wish.

The other parameter that sought to indicate the effects of TVET on socio-economic development from students' points of view was the relevance of TVET on self employment. The study revealed that 36.1percent of the students indicated that TVET was very relevant to self employment. Another 38.8percent rated it as moderately relevant while 17.8percent rated it as fairly relevant. This meant that most of the students were looking forward to engage in self employment after graduating from technical colleges with specialized skills they would have acquired. However, 5.1percent of the students rated TVET as not being relevant to self employment. These are likely to have been those students who felt they did not have capital to start self employment activities. Some of the students may not have been aware of the availability of the money from the Youth Development Fund (YDF) which supports the youth to engage in self employment activities.

The study therefore established that most young people were likely to engage in self employment after their training in TVET institutions. This in turn would contribute directly to socio-economic development in Kenya. This might also have been an indicator of the positive attitude that most students had towards the

role of TVET on socio-economic development. These findings concur with those of Keere (1990).

The students were further asked to rate the relevance of TVET in relation to enhancing further training with the aim of acquiring more specialized skills. Their responses are also captured in table 4.7. The analysis revealed that 42.2percent of the students indicated that TVET was very relevant to further studies. Another 35.5percent rated it as moderately relevant and 17.6percent rated it as fairly relevant. Overall, therefore majority of the students rated TVET as being relevant for further studies. This meant that, most of the students looked forward to furthering their training in TVET courses after completing training at technical training institutions. This further training was likely to lead to more specialized training in their respective skills and as a result enhance their productivity either in self employment or salaried employment. This in turn would lead to more contribution of trained labour force and consequently to socio-economic development in Kenya. These findings also concurred with those of Keere (1990).

The other aspect that the students were asked to rate was the relevance of TVET to nation building. Nation building in this study meant the contribution of the students towards the national wellbeing in terms of being engaged in socio-economic activities.

The data captured in Table 4.7 further indicate that 40.4percent of the students rated TVET as being very relevant to nation building. Another 37.7percent rated it as moderately relevant while 19.0percent rated it as fairly relevant. Overall therefore, most of the students rated TVET as relevant to nation building. This meant that most students understood and agreed that TVET did affect socio-

economic development in Kenya and this was often seen by various activities of national building. This also meant that, as the students were pursuing TVET courses, they were looking forward to contribute towards nation building either by being self employed or in salaried employment. Also the majority of the students were being prepared to be actively involved in aspects of nation building as they pursued TVET courses. The recognition of the relevance of TVET to nation building by the students was a good indicator of its effect on socio-economic development in Kenya. These findings concur with those of Keere (1990).

The students were also asked to rate the relevance of TVET in improving an individual's standard of life. Standard of life in this study meant the kind of life an individual was able to lead or afford according to their level of income as may often be determined by the type of vocation one was engaged in either salaried or self employment. Ideally it meant one's ability to afford basics life requirements such as food, shelter, health and clothing to a satisfactory level. The students' responses are also captured in Table 4.7.

The analysis shows that 30.4percent of the students indicated that TVET was very relevant to improving an individual standard of life. Another 40.6percent rated it as moderately relevant and 20.8percent rated it as fairly relevant. Overall therefore, majority of the students rated TVET as relevant to improving an individual standard of life. An individual standard of living, is usually an indicator of the strength of the economy in any given country. Consequently, it is evident that TVET does affect socio-economic development in Kenya since it has a direct impact on the standard of living of individuals.

The study again solicited information on students' reasons for joining TVET institution. In order to address this aspect several parameters were put into perspective namely: job interest, entry into well paying job, gaining self employment skills and qualification for further training. The analysis of students' responses explaining their reasons for joining TVET programmes are contained in Table 4.8.

Table 4.8: Students' reasons for joining TVET programmes

Item Description	n	Very great Impact 4 %	Moderate Impact 3 %	Somewhat Impact 2 %	No Impact 1 %	Total Percentage %
Job Interest	552	61.6	28.1	7.1	3.2	100
Well Paying Job	552	50.5	36.2	10.7	2.6	100
Self Employment Skills	552	63.6	28.4	6.5	1.5	100
Further Training	552	64.5	26.3	6.3	2.9	100

The analysis in Table 4.8 revealed that 61.6percent of the students indicated that job interest had a very great impact on their choice of TVET courses. Another 28.1percent rated it as moderate impact and 7.1percent of the students rated it as having somewhat impact. Overall therefore, majority of the students indicated that job interest had influenced their choice of TVET courses. What this actually meant was that, most of the students were aware of the influence TVET programmes had in the job market. Majority were also aware that TVET courses would lead them to getting jobs and therefore putting into practice the skills they would have acquired in TVET institutions. Consequently these jobs would enable them to contribute to national development and in essence contribute to socio-economic development in Kenya.

The students were also asked to rate the extent to which the desire to join a well paying job influenced their choice of TVET courses. The students' responses are as shown in Table 4.8. Data captured in Table 4.8, revealed that 50.5percent of the students indicated that the desire to secure a well paying job had very great impact in their choice to join TVET institutions. Another 36.2percent rated it as moderate impact and 10.7percent as having somewhat impact. In general therefore most of the students indicated that a well paying job had influenced them in their choice of TVET course. This meant that, the students were aware of the likelihood that TVET courses might lead to obtaining well paying jobs. Well paying jobs are associated with a higher standard of living since one has some income to spend.

Students were further asked to rate the impact of TVET programmes on acquisition of skills for self employment. The responses are also shown in Table 4.8. The results indicate that 63.6percent of the students rated acquisition of skills for self employment to be of very great impact in their decision to understand such a course. Some 28.4percent of the students rated it as of moderate impact and 6.5percent rated it as having somewhat impact. On the whole, majority of the students indicated that the need to acquire skills for self employment had impacted greatly on their choice of TVET courses. This meant that the driving force for students to pursue TVET course was acquisition of skills for self employment. It is therefore evident that most of the students wanted to acquire skills for self employment. These skills would at the end of the course lead them to engage in income generating activities, hence earn some income that would help them improve their standard of living. Also as most of the students engaged in self employment, they would also create jobs for other people who they would engage as their business would grow. The net effect of acquiring skills for self

employment would be a great contribution to socio-economic development in Kenya by way of increased incomes and employment creation.

The study also asked the students to rate how acquiring qualification for further training influenced their choice of TVET course. The students' responses are also shown in Table 4.8. The analysis revealed that 64.5 percent of the students indicated that acquiring qualifications for further training had very great impact on their choice to join TVET programmes. Some 26.3percent of the students rated it as moderate impact and 6.3percent rated it as some what impact. Overall therefore, most of the student indicated that the need to acquire qualifications for further training as having greatly impacted their choice of joining TVET programmes. This meant that the majority of students recognized the need for furthering their education in order to acquire more specialized skills. These specialized skills would lead to better productivity of the students when they engaged in income generating activities. As a result, the increase in productivity would lead to increase in socio-economic development of the country. Further training therefore does contribute to socio-economic development as this often leads to production of high skilled labour which is always required in a growing economy like Kenya.

In order to establish the factors that influence students' perception on the influence of TVET programmes on socio-economic development in Kenya, the students were asked to rate the influence of labour market needs, relevance of TVET curriculum to the job market, quality of trainers and adequacy of training equipment on TVET programmes. The responses are captured in Table 4.9.

Table 4.9: Factors that influence development of TVET programmes

Item Description	N	Very Influential 4 %	Influential 3 %	Less Influential 2 %	Not Influential 1 %	Percent %
Labour Market Needs	552	37.5	52.0	10.1	0.4	100
Current TVET Curriculum	552	24.1	56.4	16.8	2.7	100
Quality of Trainers	552	38.6	46.9	12.5	2.0	100
Training Equipment	552	35.7	46.2	15.2	2.9	100

The results in Table 4.9 reveal that 37.5percent of the students indicated that the labour market needs was very influential to the development of TVET programmes. Some 52percent rated it as influential while 10.1percent rated it as less influential. On the whole over 52 percent of the students indicated that the labour market needs influence development of TVET programmes.

This further meant that, TVET development in Kenya is highly influenced by the demands in the labour market. This therefore explained the reason why there were very many courses in TVET institutions. There were courses in all business fields including business studies, technical courses, sciences courses, agricultural courses and engineering courses. The labour market in each of these fields leads to the demand for skilled manpower that was in most cases trained in TVET institutions. Therefore, the study had established that the labour market needs did influence the types of labour trained and at different levels. This in itself did influence the development of TVET in Kenya. It was therefore clear that TVET did affect socio-economic development in Kenya as revealed by the influence of the labour market needs.

With respect to the extent to which the current TVET curriculum had affected the growth of TVET programmes, the results revealed that 24.1percent of the students rated the current TVET curriculum as very influential. Another 52percent rated it as influential while 16.8percent rated it as less influential. In general over 56.4

percent of the students rated the current TVET curriculum as influential to the development of TVET programmes. This therefore meant that majority of the students indicated that the current TVET curriculum influenced the development of TVET programmes and was relevant to the job market. This further implied that as the job market absorbed the graduates from TVET institutions and hence they supported the development of TVET in Kenya. Therefore the students were of the view that TVET programmes affected socio-economic development through production of the labour force needed by the economy. This was further supported by the fact that some 56.3 percent (Table 4.9) of the students said that current curriculum being offered in TVET institutions was influential to the development of TVET programmes consequently to socio-economic growth of the country.

The information in Table 4.9 also revealed that 38.6 percent of the students rated the quality of trainers as very influential to the development of TVET programmes. Another 46.9 percent rated it as influential while 12.5 percent rated it as less influential. Overall, over 46.9 percent of the students indicated that the quality of trainers influenced the development of TVET in Kenya. This meant that, the current quality of trainers in TVET institutions was relevant to the development of TVET programmes in Kenya.

These findings seemed to support the results presented in Table 4.1(b) showing that majority of the lecturers in targeted TVET institutions were trained in the relevant areas they taught. This therefore supported the students' views that the quality of trainers did influence the development of TVET in Kenya. With availability of qualified trainers, it meant that the graduates from TVET institutions were likely to be well trained and thus qualified and ready to serve the

job market in Kenya. This further supported the contribution of TVET on socio-economic development in terms of availability of qualified training personnel.

The study also sought students' views on the influence of training equipment on the development TVET training programmes. The results in Table 4.9 indicate that 35.7percent of the students' rated training equipment in TVET as very influential to the development of TVET programmes. Another 46.2percent rated them as very influential and 15.2percent rated them as less influential. Therefore over 46.2 percent of the students rated training equipment as influential on TVET training programmes in Kenya. This meant that the current training equipments were relevant to the current training in TVET institutions and this was ensuring that the graduates were well trained. During data collection the researcher observed that in most of the TVET institutions, most of the training equipments had been upgraded and modernized. This was in turn supported by the 46.2 percent of the students' views on the influence of the training equipments as being influential on the development of TVET programmes.

The lecturers too were asked to rate the influence of TVET on socio-economic development in Kenya. Their responses are shown in Table 4.10.

Table 4.10 Lecturers' views on the influence of TVET on socio-economic development

Rate of Scale	Frequency N	Percent %
No Influence	1	1.4
Fair Influence	23	31.1
High Influence	36	48.6
Very High Influence	14	18.9
Total	74	100.0

The data captured in Table4.10 reveal that 18.9percent of the lecturers rated TVET as having very high influence on socio-economic development in Kenya.

Some 48.6 percent of the lecturers rated it as high influence and 31.1 percent rated it as being fair influential. Therefore over 48.6 percent of the lecturers indicated that TVET highly influence socio-economic development in Kenya. The lecturers' views on the positive influence of TVET on socio-economic development in Kenya concur with those of students.

In light of the above discourse, the study established that, TVET was very relevant to socio-economic development in Kenya. Thus an average of over 35.2 percent of the students indicated that TVET programmes was relevant to socio-economic development in Kenya in terms of its relevance to employment opportunities, self employment, further studies, social cohesion, nation building and moral integrity and standard of life.

Additionally, the study established that TVET programmes impacted on socio-economic development in Kenya. This was also supported by the fact that over 60.1 percent of the students indicated that TVET programmes greatly impacted on socio-economic development in Kenya in terms of job interest, enhanced well paying job, gaining self employment skills and qualification for further training.

Further, the study revealed that TVET programmes did influence socio-economic development in Kenya. This was indicated by 33.9 percent of the students and 67.5 percent of the lecturers who indicated that TVET programmes had highly influenced socio-economic development in Kenya in terms of the labour market on the development of TVET, relevance of TVET curriculum to the job market, quality of trainers, and adequacy of training equipment and influence of training materials. Therefore both the students and lecturers indicated that TVET is relevant to socio-economic development in Kenya.

Testing of Hypothesis 3

In order to understand how the various learner characteristics influenced students' perception on the role of TVET programmes towards socio-economic development, the third hypothesis stated that: H₃: Learner characteristics do not significantly affect their perception on the role of TVET programmes on socio-economic development. This hypothesis was tested using regression analysis. The results of this analysis are shown in Table 4.11(a).

Table 4.11(a)

Model of learner factors on socio-economic development

R	R Square	Adjusted R Square	Std. Error of the estimate Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
0.073 ^a	0.005	0.000	0.3940	0.005	0.979	3	544	0.402

- a. Predictors: (Constant), What is your highest level of education?, what is your age group?, Please indicate your gender.
- b. Dependent Variable: Socio-economic Development

The results from Table 4.11(a) were summarized by the following regression equation; $Y = a + bX$; where Y = value was the dependent variable (socio-economic development) that was being predicated in this study. The value (a) was the constant in the regression analysis equation. The value (b) was the coefficient of X, while X was the value of independent variable (learner factors). The independent variable for hypothesis H₃ in this study was learner factors and their influence on students' perception towards the effect of TVET on socio-economic development. This meant that X=learner factors predicted students' perceptions on the effects of TVET on socio-economic development.

Therefore, results indicated that the significant level for this hypothesis test was 0.402 which was greater than $p=0.05$, $F(3,544)=0.00$, $p<0.05$, $R^2=0$ percent). This meant that since Sig. F change =0.402 then the hypothesis was accepted.

Thus the predictors identified to determine the effect of learner characteristics on their perceptions on TVET towards socio-economic development in this study were not significant. The results therefore suggested that learner factors, that is, age, gender and level of education were not predictors of learner perceptions on the role of TVET towards socio socio-economic development. These findings did not agree with Kingombe, (2012). According to Kingombe, the age, gender and students' level of education did influence their perceptions. The difference of opinion with Kingombe in this study was because Kingombe's study was on secondary school students while this study focused on TVET students.

The third hypothesis also sought to determine the relative importance of learner factors on socio-economic development. The results are summarized in Table 4.11(b)

**Table 4.11(b):
Relative importance of learner factors on socio- economic development**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	3.806	.295		12.900	.000
Please indicate your gender	.095	.054	.077	1.753	.080
What is your age group?	.001	.052	.001	.025	.980
What is your highest level of formal education?	.021	.143	.006	.145	.884

a. Dependent Variable: Socio-economic Development

The information captured in Table 4.11(b) further indicated that learners' age, gender and level of education were in absolute terms not significant to socio-economic development as indicated by the beta standardized coefficients. However, in relative terms, gender was more influential at 0.80 compared to age and level of education. This finding agrees with Nelson and Cooper (1997) and

Young (2000) who found males were more inclined to gender biased views of technology. This further explained why female students were likely to enroll in 'perceived' female courses as was with male students who enroll in 'perceived' male courses.

4.3.4 Effects of institutional factors in TVET on socio-economic development in Kenya.

The fourth research objective was to examine students' perception on the influence of institutional factors towards the role of TVET programmes on socio-economic development. This was further to address research question four: how do institutional factors influence students' perception on the role of TVET towards socio- socio-economic development? The fourth hypothesis thus stated that: H₄: Institutional factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development.

The hypothesis on institutional factors was tested in terms of lecturers' qualifications, physical infrastructure, teaching and learning facilities, TVET curriculum and category of TVET institution were taken into consideration. The students' and lecturers' views on these variables were expected to provide information from both the lecturers and the students on what they believed were the effects of institutional factors in TVET towards the role of TVET on socio-economic development in Kenya.

With respect to lecturers' qualifications, four aspects were addressed. These included their professional qualifications, teaching experience, methods of teaching and attendance of in-service training. As indicated earlier the quality of the trainers in every programme was of paramount importance and could not be understated or ignored. The study therefore sought lecturers' and students' views

on lecturers' qualification as one of the institutional factors that would affect the development of TVET and consequently socio-economic development in Kenya.

The study further elicited information on the methods of teaching that were commonly used by lecturers. The methods of teaching most commonly used by the lecturers in TVET institutions are contained in Table 4.12(a).

Table 4.12(a): Teaching methods used by lecturers in TVET institutions

Method of teaching	Frequency N	Percent %
Lecture	53	71.6
Demonstration	21	28.4
Total	74	100.0

The analysis in Table 4.12(a) revealed that 71.6percent of the lecturers used the lecture method and 28.4 percent of the lecturers used demonstration method. The results in Table 4.12(a) suggested that the most preferred method of teaching was lecture method which was by and large teacher –centered. This finding was contrary to what was expected in technical education. Generally, methods of teaching for technical education were expected to be done through demonstration, practical assignment among others. However, results in Table 4.2 showed that most students were enrolled in Business related areas where demonstration method of teaching may not have been used frequently as in other more technical courses such as engineering. It would therefore be important in future research to find out why technical subjects were not as popular as business related programmes since there was shortage of human resource in the latter.

The study again sought to establish the distribution of lecturers by teaching department. This was aimed at understanding the reasons for their choice of teaching methods. The information is summarized in table 4.12(b).

Table 4.12(b): Distribution of lecturers by teaching department

Teaching Department	Frequency N	Percent %
Business	27	36.5
Applied Sciences	8	10.8
Engineering	20	27.0
Institutional management	8	10.8
ICT	11	14.9
Total	74	100.0

The analysis in Table 4.11(b) shows that 36.5percent of the lecturers were in business studies department. This meant that most of the courses in this department were taught by lecture method because they were often more theoretical. Another 27 percent were in Engineering department, followed by 14.9 percent in ICT department and 10.8 percent in Applied Science and Institutional Management respectively. The courses in the engineering departments were often practical in nature and hence the most preferred method of teaching was usually demonstration though it did not seem to have been the case by a majority of the lecturers.

The study further sought to get an insight on whether lecturers got on updating their knowledge and skills. They were requested whether they had attended in-service training in their areas of specialization. In-service training is very vital in any professional development. This is because most often in-service training offers new skills development and updates, especially, the trainers on the growing needs in the labour market. The study thus sought to establish whether lecturers

attended in-service training as a way on enhancing their professional qualifications and competence. Their responses are shown on table 4.13.

Table 4.13: Lecturers' attendance of in-service courses in TVET

Rate of Scale	Frequency N	Percent percent
Seldom	36	48.6
Less Frequently	26	35.1
Frequently	9	12.2
Very frequently	3	4.1
Total	74	100.0

The information in Table 4.13 indicates that 48.6percent of the lecturers seldom attended in-service training while 35.1percent indicated that they attended in-service training less frequently. Nevertheless 12.2percent and 4.1percent of the lecturers indicated that they attended in-service training frequently and very frequently respectively. This meant that most lecturers lacked an opportunity of being updated in their training through in-service training programs.

As an institutional factor therefore, the study established that there was need for more in-service training for lecturers in order to enhance their professional competence and qualification. In-service training was critical because it kept the trainers abreast with new development in the economy and more particularly the labour market. The lecturers would in turn pass the knowledge to the trainees when teaching.

The other aspect that was investigated under institutional factors was adequacy of teaching and learning facilities. The study sought students and lecturers views on the influence of teaching and learning facilities on the development of TVET and its effect on socio-economic development. Their responses are captured on Table 4.14.

Table 4.14:**Lecturers' and students' views on adequacy of teaching and learning facilities in TVET institutions**

Rate of Scale	Lecturers' Views		Students' Views	
	Frequency N	Percent %	Frequency N	Percent %
Not adequate	7	9.4	29	5.3
Inadequate	17	23.0	143	25.9
Adequate	42	56.8	263	47.6
Very adequate	8	10.8	117	21.2
Total	74	100.0	552	100

The analysis in Table 4.14 reveals that 10.8 percent of the lecturers indicated that the training facilities in their institutions were very adequate. Some 56.8 percent of the lecturers indicated they were adequate. Another 23 percent indicated the training facilities were inadequate while 9.4 percent indicated they were not adequate. Also the analysis reveals that 21.2 percent of the students indicated that teaching and learning facilities were very adequate while 47.6 percent indicated that they were adequate. Some 25.9 percent of the students indicated they were inadequate while 5.3 percent indicated they were not adequate. In general therefore, 56.8 percent and 10.8 percent of the lecturers indicated that teaching and learning facilities were adequate and very adequate respectively. This was almost similar to students' views which indicated that 47.6 percent and 21.2 percent had said that the teaching and learning facilities were adequate and very adequate respectively. Hence lecturers and students held similar views on the adequacy of teaching and learning facilities. However, there is a slight difference. For instance, less than 50 percent of the students stated that teaching and learning facilities were adequate compared to nearly 57 percent of the lecturers who indicated that teaching and learning facilities were adequate.

The results revealed that TVET institutions had adequate training facilities. However, over 9 percent and 23 percent of the lecturers and over 5 percent and 25.9 percent of the students found facilities not adequate and inadequate respectively. This meant that there was inequality of teaching and learning facilities that made learning ineffective. Hence provision of teaching and learning facilities should be addressed.

In summing up this section, it could be stated that lecturers who used teacher-centered methods were more likely to be satisfied with less learning resource facilities compared to those who used learner-centered methods of teaching.

The study also investigated issues relating to relevance, mechanism of quality assurance in TVET programme, administration and organization of TVET. The views of lecturers are dealt with first. These views are captured in Tables 4.15.

Table 4.15:
Lecturers' views on the relevance of current TVET curriculum to socio-economic development

Rate of Scale	Frequency N	Percent %
Less relevant	15	20.3
Relevant	39	52.7
Very relevant	20	27.0
Total	74	100.0

The results in Table 4.14 indicate that 27 percent of the lecturers indicated that the current TVET curriculum was very relevant to socio-economic development in Kenya. Another 52.7 percent indicated it was relevant while 20.3 percent indicated it was less relevant. Therefore majority of the lecturers rated the current TVET curriculum as being relevant to socio-economic development in Kenya.

The students too were asked to rate the relevance of the current TVET curriculum to socio-economic development in Kenya. The students' responses are shown in Table 4.16.

Table 4.16:
Students' views on the relevance of the current TVET curriculum to socio-economic development

Rate of Scale	Frequency N	Percent %
Not relevant	16	2.8
Fairly relevant	87	15.8
Relevant	299	54.2
Very relevant	150	27.2
Total	552	100.0

The information captured in Table 4.16 reveals that 27.2 percent of the students rated the current TVET curriculum as being very relevant to socio-economic development in Kenya. Another 54.2 percent and 15.8 percent rated it as relevant and fairly relevant respectively. The study therefore established that about 54.2 percent of the students and 52.7 percent of the lecturers rated the current TVET curriculum as being relevant to socio-economic development in Kenya. This was a very good indicator of the effect of TVET on socio-economic development in Kenya since over 50 percent of the students and lecturers rated the current TVET curriculum as relevant. By extension therefore, a relevant curriculum ensures that proper training was done and consequently the graduates from the TVET institutions would also be relevant to the economy as they would be able to engage in productive activities having acquired relevant skills from a relevant TVET curriculum. Generally over 60 percent of TVET graduates get either salaried or self employment after their training. The rest could go for further studies.

The other aspect that the study investigated was the quality assurance of TVET curriculum. The aspect of quality assurance is very crucial in any programme since it ensures that the programme is of high quality and meets the demands of the trainees and the labour market at large. The views of students on quality assurance of TVET curriculum are captured in Table 4.17.

Table 4.17:
Students' views on quality assurance of mechanism of TVET curriculum

Rate of Scale	Frequency N	Percent %
Not relevant	18	3.2
Fairly relevant	118	21.4
Relevant	267	48.4
Very relevant	149	27.0
Total	552	100.0

The analysis in Table 4.17 above reveals that, 27 percent of the students rated the current mechanism of quality control of TVET programmes as very relevant. Another 48.4 percent rated it as relevant while 21.4 percent rated it as fairly relevant. Overall 75.4 percent of the students rated the current quality assurance mechanism in TVET as being relevant. This was a good indicator that TVET curriculum is perceived to be relevant and of good quality. This seemed to suggest that the current TVET programme was well monitored and quality assurance was maintained by the respective arm of government.

The other aspect of TVET curriculum that the study examined was its management or administration and organization. The students were asked to rate the influence of management of TVET programmes and how it affected socio-economic development in Kenya. Students' views on management of TVET programmes are summarized in Table 4.18.

Table 4.18:
Students' views on management of TVET Programmes

Rate of Scale	Frequency N	Percent %
Not Influential	25	4.6
Less Influential	99	17.9
Influential	265	48.0
Very influential	163	29.5
Total	552	100.0

The information captured in Table 4.18 shows that 29.5 percent of the students rated the management of TVET programmes as very influential. Some 48 percent of the students rated management of TVET programmes as influential while 17.9percent rated it as less influential. These results seem to suggest that the management of TVET programme has been supportive in ensuring that the programme yields the desired results. Some of the results include quality training of graduates, relevance of the TVET curriculum, adequate teaching staff and provision of training facilities. As at the moment, it is important to note that administratively, the entire TVET programmes are under the ministry of Higher Education Science & Technology (MHES&T). The ministry plays an oversight role of checking the quality of TVET programmes. However the Directorate of Technical Quality Assurance and Standards (DTQAS) performed the main role of ensuring quality of programmes and training is maintained. At the institutional levels the principals of public institutions and managers of private institutions manage the day to day running of the programmes.

4.3.5 Students' views on their preparedness after TVET programmes

The study also sought to establish the extent to which the trainees measured their preparedness after training to join the labour market. This was aimed at establishing how the trainees gauged themselves after undergoing training and

how ready they felt they were to join the labour market. Two aspects were addressed in this case .In respect to students preparedness in terms of skills acquisition and preparedness for the job market during the training. Their responses are shown in table 4.19 and 4.20.

Table 4.19: Students' views on their preparedness in terms of skills acquired during training

Rate of Scale	Frequency N	Percent %
Not adequately prepared	16	2.9
Fairly prepared	120	21.7
Adequately prepared	282	51.1
Very adequately prepared	134	24.3
Total	552	100.0

The analysis in Table 4.19 reveals that 24.3 percent and 51.1 percent of the students indicated that they were very adequately prepared and adequately prepared respectively in terms of skills acquired during training. Some 21.7 percent of the students indicated that they were fairly prepared. However 2.9 percent of the students indicated that they were not adequately prepared in terms of skills acquired during training. This meant that as the students went through the training majority of them were able to gauge themselves in terms of how they acquired skills and how ready they would use the acquired skills in the job market. This was a good indicator that they were receiving the necessary training and as such they would be ready to utilize the acquired skills in the job market.

The other aspect of student preparedness was in relation to the job market. This question was raised in order to establish students' feelings towards their preparedness and readiness for the labour market. Their responses are shown in Table 4.20.

Table 4.20:**Students' views on their preparedness for the job market**

Rate of Scale	Frequency	Percent
	N	%
Not adequately prepared	4	0.8
Fairly adequately prepared	62	11.2
Adequately prepared	332	60.1
Very adequately prepared	154	27.9
Total	552	100.0

Information captured in Table 4.20, reveals that 27.9 percent and 60.1 percent of the students indicated that they were very adequately prepared and adequately prepared respectively for the job market after their training in TVET institutions. Some 11.2 percent of the students indicated they were fairly prepared while 0.7 percent indicated they were not adequately prepared. The study therefore established that a majority of students from both public and private institutions were feeling adequately prepared for the labour market. This meant that the TVET programmes were producing majority of graduates who felt that they were adequately prepared for the job market. This also was a good indicator of the contribution of TVET programmes towards socio-economic development.

4.3.6 Mismatch between TVET and socio-economic development in Kenya

Nevertheless, the students were asked to indicate whether there was a mismatch between TVET programmes and socio-economic development in Kenya. The aspect of mismatch was on the basis of establishing whether in practice there was a missing link between TVET programmes and socio-economic development. This was aimed at eliciting views from both students and lecturers on what they felt were the missing link between TVET and socio-economic development. Their responses are summarized in Tables 4.21 and 4.22.

Table 4.21: Students' views on the extent of mismatch between TVET and socio-economic development

Rate of Scale	Frequency n	Percent %
None	95	17.2
Not very great	165	29.9
Great	216	39.1
Very great	76	13.8
Total	552	100

It is evident in Table 4.21 that 13.8 percent of the students indicated that the mismatch between TVET and socio-economic development was very great. Some 39.1 percent of the students rated the mismatch as great, while 29.9 percent rated the mismatch as not very great. Incidentally 17.2 percent of the students indicated that there was no mismatch between TVET and socio-economic development. Therefore the study established that slightly over 50 percent of the students indicated that there was a mismatch between TVET programme and socio-economic development.

Lecturers were also asked to rate the extent of the mismatch between TVET programmes and the skills required for socio-economic development. Their responses are captured in Table 4.22.

**Table 4.22:
Lecturers' views on the extent of mismatch between TVET and socio-economic development**

Rate of Scale	Frequency N	Percent %
No mismatch	7	9.5
Less mismatch	17	23.0
High mismatch	39	52.6
Very high mismatch	11	14.9
Total	74	100.0

The results in Table 4.22 indicate that 14.9 percent of the lecturers rated the mismatch between TVET programmes and socio-economic development as very high. Another 52.7 percent rated this mismatch as high and 23.0 percent rated it as less mismatch. Incidentally over 9 percent of the lecturers indicated that there was no mismatch between TVET programmes and socio-economic development. This meant that the lecturers' views were different when compared to students' view on the mismatch between TVET programmes and socio-economic development. The difference in the rating would be attributed to the fact that the students' expectations about TVET programmes and socio-economic development were higher than that of lecturers. The lecturers were able to interpret the mismatch of TVET programmes and socio-economic development in a better way than the students. Therefore, the study established that there existed a great level of mismatch between TVET programmes and socio-economic development. This situation needed to be investigated in future studies.

4.3.7 Fast tracking socio-economic development through TVET programmes in Kenya

The study further sought information from lecturers with regard to whether TVET programmes did fast track socio-economic development in Kenya. The lecturer's responses are shown in Table 4.23.

Table 4.23:
Lecturers' views on ways in which TVET can fast track Socio- economic development

Way of fast tracking	Frequency N	Percent percent
Training in technical skills	41	55.4
Training middle level manpower	20	27.0
Marketing TVET products	13	17.6
Total	74	100.0

The data in Table 4.23 indicates that 55.4 percent of the lecturers felt that provision and acquisition of technical skills were ways that TVET programmes could fast track socio-economic development. This was followed by 27.0 percent represented by training of middle level manpower through TVET institutions and 17.6 percent representing marketing of TVET products would also fast track socio-economic development. The study findings seemed to suggest that the best way of fast tracking socio-economic development was through provision and acquisition of technical skills which were offered in TVET institutions.

4.3.8 Challenges facing the development of TVET programmes

The study also sought students' and lecturers' views on the challenges facing the development of TVET programmes in Kenya. Some of the challenges facing development of TVET programmes in Kenya identified by students are contained in Table 4.24.

Table 4.24: Students' views on challenges facing TVET

Type of challenge	Frequency N	Percent %
Few training equipment	171	31.0
Few Job opportunities for trainees	122	22.0
Inadequate training facilities	245	44.4
No proper linkage with the industry	2	0.4
None	12	2.2
Total	552	100.0

An overwhelming majority of the students (97.6 percent) stated that TVET programmes faced a number of challenges. The information in Table 4.24 shows that 44.4 percent of the students indicated that the major challenge facing TVET was inadequate training facilities. These would include items such as the number

of workshops, laboratories, classes, text books and furniture among others. Another 31.1percent of the students indicated that few equipment were another challenge facing TVET. The issue of equipment would include items such as machines, tools, computers among others. This was a challenge mainly because of the number of students enrolled in a specific course and the available equipment had to be shared among the trainees. The other challenge identified was few job opportunities by trainees after graduating from TVET institutions. This was identified by 22 percent of the students. Finally a very small number of students 0.4percent identified lack of proper linkage with the industries as a challenge. This was mainly because often times a few students lacked places for attachment practicum.

The lecturers too identified some challenges that face TVET programmes. These challenges are presented in table 4.25.

Table 4.25: Lecturers' views on challenges facing TVET

Type of Challenge	Frequency N	Percent %
Political interference	7	9.5
Competition from Universities	26	35.1
Inadequate funds from the government	36	48.6
No room for expansion	5	6.8
Total	74	100.0

The information in Table 4.25 indicate that 100percent of the lecturers agreed that TVET was facing some challenges. Unlike the students however, the lecturers identified challenges that were of policy in nature. The information in Table 4.25 shows that 48.6 percent of the lecturers identified lack of funds from the government as the main challenge. Funds often affect the training programmes

especially in terms of acquisition of training materials and when they are not available the quality of training is also affected. In most cases when lecturers lacked training materials they ended up covering the theory part of the course at the expense of the practical part. The other challenge identified by the lecturers was competition from universities. Some 35.1 percent of the lecturers indicated that TVET institutions were facing competition from universities in terms of courses they were offering. For example, some of the Engineering courses such as electrical engineering, mechanical engineering applied sciences among others are offered in both TVET institutions and Universities. Students often seemed to prefer to study similar courses offered by the universities due to social prestige rather than TVET institutions. The other aspect of competition from universities was the issue of affiliation of colleges to existing public and private universities. The effect of this was that students would prefer to be in a college which is affiliated to a certain university either because they believe the programmes offered were of high quality or just for social prestige.

The other challenge identified by 6.8 percent of the lecturers was lack of room for expansion. This was a challenge especially for private colleges that often used hired premises and experienced an influx of students. The public institutions also faced a similar challenge in a sense that there was no room to put up more facilities especially for those that were located in the urban centers. The other aspect of the expansion was based on the fact that more and more students were enrolling in TVET courses at a faster rate than the expansion of TVET institutions. This therefore, led to the problem of congestion of students and inadequate training facilities.

The other challenge identified by 9.5 percent of the lecturers was the issue of political interference. This was a major challenge especially where most public TVET institutions were being converted into university constituent colleges. When TVET institutions were taken up by universities, it meant that their numbers were reducing and in turn the number of trainees in such institutions would eventually reduce. The long term effect of this was that there would be very few graduates from TVET institutions who would provide middle level manpower for the economy. This in turn may adversely affect the rate of socio-economic growth and development. These challenges needed to be addressed in order to ensure that TVET programmes continue to play their vital role in enhancing socio-economic development in Kenya with minimal or no challenges.

4.3.9 Responses from heads of departments in industries on the role of TVET programmes on socio-economic development

The study also interviewed five heads of departments from five industries. Their views were collated and analyzed thematically on the basis of the research objectives and research questions.

All the respondents agreed that TVET was playing a very vital role in socio-economic development in Kenya. They further indicated that among their employees were those from TVET institutions who proved to be very competent when performing their duties.

In terms of the relevance of TVET training to the industry, all the respondents agreed that it was very relevant as demonstrated by the graduates from these TVET institutions. They also indicated that TVET does contribute to socio-economic development by way of supplying the human capital required by the

industry. With respect to involvement of the industry in curriculum design, most of the respondents indicated that they were not consulted in their capacity as heads of departments. However they agreed that because of offering internship or attachment opportunities to the TVET trainees then indirectly they were contributing to curriculum design by offering the practical component.

With regard to matters of policies, all the respondents indicated that the current TVET policies needed to be harmonized with the industry demands in order to make TVET more effective. This would be achieved by ensuring that the trainees in TVET institutions were offered practical opportunities in the industries since industries were the main consumer of the services of graduates from TVET institutions. In relation to challenges facing TVET, most of the respondents indicated that the duration for the field attachment for students was very short. In most cases trainees had three months for their attachment period. The duration for the attachment was perceived to be inadequate or short compared to what they would be expected to learn in the specific industry.

Overall, therefore all the respondents indicated that there is a need for TVET to be streamlined with other government policies in order to give it the impetus it requires in the promotion of socio-economic development in Kenya. The results seemed to suggest that the industry should also be sensitized on the vital role TVET plays in developing human capital. Also there seemed to be a dis-connect between the industries and TVET institutions in terms of offering trainees attachment opportunities. This should be addressed so as to enable the industry to be more committed to providing trainees from TVET institutions with opportunities and facilities for industrial attachment. This in effect would guide the TVET institutions in aligning their training programmes to the needs in the

industry. The envisaged collaboration between the industry and TVET institutions would require policies both legal and legislative to be put in place in order to strengthen this collaboration for mutual benefit of all the parties concerned.

4.3.10 Responses from heads of department in government ministries on the role of TVET on socio-economic development

The study also interviewed five heads department from government ministries. Two were from the Ministry of Industrialization (MoI) and three were from the Ministry of Higher Education Science and Technology (MHES&T). Their views were also collated and analyzed thematically on the basis of the research objectives and research questions

In response to the extent to which TVET influenced socio-economic development in Kenya, all the participants indicated that the role of TVET in producing human capital required by the industry was vital. This view was in concurrence with that of respondents from the industry. The respondents from the Ministry of Industrialization indicated that, TVET was the driving force in the Ministry since it produced human capital with practical skills. They also indicated that there were many activities initiated between the Ministry, TVET institutions and the industry in order to enhance collaboration among them. One of the main collaborative activities conducted by this ministry were trade exhibitions. For instance in October 2011 the ministry had organized a trade exhibition at the Kenyatta International Conference Center (KICC). This provided an opportunity for various industries to showcase their products and the skills required in the production of the same. This exhibition further provided an opportunity for TVET graduates to interact with the industry.

The respondents from the Ministry of Higher Education Science and Technology indicated that they were actively involved in the implementation of TVET programmes. This was mainly on the quality assurance and standards in order to ensure that all TVET institutions both public and private were officially registered. The ministry also endeavoured to ensure that relevant training programmes were being offered and properly examined and certified in collaboration with relevant stakeholders. This was done in order to ensure credibility of the TVET programmes. In turn this would create public confidence in the graduates from TVET institutions.

With respect to the relevance of TVET programmes on socio-economic development, the respondents in both ministries agreed that TVET was very relevant to socio-economic development in Kenya. This was felt to be so because most graduates from TVET institutions were either getting salaried employment or self employment. One of the respondents from the ministry of Industrialization indicated that he was aware of a number (about 10 percent) of TVET graduates who had secured funds from the Ministry of Youth Affairs and had ventured in to self employment. This to him was a good indicator of how TVET graduates were contributing to socio-economic development in Kenya. Those who engaged in self employment were not only creating jobs for themselves but also for other Kenyans. At the same time they were promoting the development of TVET in terms of putting into practice skills acquired.

With regard to the challenges facing TVET development in Kenya the respondents from both ministries indicated the main challenge to be financing. This was due to the high cost of training equipment required in TVET institutions. In order to mitigate this, the MHES&T was developing a TVET Bill (2012) that

would address this challenge by committing the Government of Kenya to fund TVET institutions adequately. In order to have proper policies suitable for TVET, a national TVET authority was proposed. This authority would oversee all the activities of TVET in Kenya in terms of policies, curriculum development, training institutions accreditation, examination and certification. This authority would ensure efficient and effective running and implementation of TVET programmes. In relation to socio-economic development, the authority would ensure that TVET plays its effective role in terms of human capital development and technology advancement in Kenya.

Overall, therefore, the responses from respondents from both Ministries seemed to be in concurrence with the views of the students and the lecturers that TVET did play a major role in socio-economic development in Kenya. Almost all the respondents indicated that TVET should be enhanced by all the stakeholders so as to make it more effective and relevant to socio-economic development in Kenya.

Testing of Hypothesis 4

In order to understand the effect of institutional factors on students' perception on the role of TVET towards socio-economic development, the fourth hypothesis was tested. This hypothesis stated that: H₄: Institutional factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development. The hypothesis was tested using regression analysis and the results are shown in Table 4.26.

Table 4.26**Model of institutional factors on socio-economic development**

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.348 ^a	.121	.120	.5716	.121	75.435	1	546	.000

a. Predictors: (Constant), Institutional;

b. Dependent Variable: Socio-economic Development

The results from Table 4.11(a) were summarized by the following regression equation; $Y = a + bX$; where $Y =$ value was the dependent variable (socio-economic development) that was being predicated in this study. The value (a) was the constant in the regression analysis equation. The value (b) was the coefficient of X , while X was the value of independent variable (institutional factors). The independent variable for hypothesis H_4 in this study was institutional factors and their influence on students' perception towards the effect of TVET on socio-economic development. This meant that X =institutional factors predicted students' perceptions on the effects of TVET on socio-economic development.

Therefore, the results in Table 4.26 revealed that there was a significant relationship between Institutional factors and students' perception on the role of TVET programmes towards socio-economic development as $F(1,546) = 75.435$, $p < 0.05$. Since the significance level was $0.00 < p = 0.05$ then the hypotheses was rejected. This further means that since $R^2 = 12$ percent then there was a significant relationship between institutional factors and students' perception towards the role of TVET on socio-economic development. The model therefore, revealed that the study was able to establish institutional factors that can predict students' perception on the role of TVET on socio-economic development at 12 percent. These findings concurred with those of Sifuna (1992). This therefore meant that

there were other institutional predictors that needed to be investigated and were not covered in this study. The results of this model suggested the need to be reformulated for future studies in order to have other factors that would predict students' perception at more than 12 percent as was with this model.

4.4 The combined effects of contextual, learner and institutional factors on the role of TVET on socio-economic development

After testing each individual hypothesis independently, that is: namely hypothesis on overall students' perceptions on the role of TVET programmes on socio-economic development, as well as contextual, learner and institutional factors the study sought to test the combined effect of contextual, learner and institutional factors on students' perception on the role of TVET on socio-economic development. The hypothesis stated that H₅: Contextual factors, learner characteristics and institutional factors do not significantly influence learners' perception on the role of TVET programmes on socio-economic development. The results based on regression analysis are shown in Table 4.27(a).

Table 4.27(a): Model of contextual, learner and institutional factors on socio-economic development

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.365 ^a	.133	.122	.5709	.133	11.849	7	540	.000

- a. Predictors: (Constant), Institutional, What is your age group?, Highest level of your mother's education, Please indicate your gender, What is your highest level of formal education?, Number of siblings, Highest level of your father's education
- b. Dependent Variable: Socio-economic Development

The results from Table 4.11(a) were summarized by the following regression equation; $Y = a + bX$; where $Y =$ Value was the dependent variable (socio-

economic development) that was being predicated in this study. The value (a) was the constant in the regression analysis equation. The value (b) was the coefficient of X, while X was the value of independent variables (combined effects of contextual, learner and institutional factors). The independent variables for hypothesis H₅ in this study was the combined factors-contextual, learner and institutional factors and their influence on students' perception towards the effect of TVET on socio-economic development. This meant that X=combined factors predicted students' perceptions on the effects of TVET on socio-economic development.

Therefore, results in Table 4.27(a) revealed that there was a significant relationship between contextual, learner and institutional factors when combined together on students' perception on the role of TVET towards socio-economic development. This evidenced by $F(7,540) = 11.849$, Sig. $F = 0.000 < p = 0.05$. This meant hypothesis was accepted. This further meant that since $R^2 = 12.2$ percent, then the study established that of all the contextual, learner and institutional factors, this study could only account for 12.2 percent of the variations that could predict students' perception on the role of TVET on socio-economic development. Therefore, the study established that there were other factors that did influence students' perception on the role of TVET towards socio-economic development other than contextual, learner and institutional factors. This finding agreed with Muya (1993) and Kerre (1993).

This hypothesis also sought to determine the relative importance of contextual, learner and institutional factors on socio-economic development. The results are captured in Table 4.27(b)

Table 4.27(b)

Relative importance of contextual, learner and institutional factors on socio-economic development

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.312	.346		6.679	.000
Highest level of your father's education	-.054	.036	-.085	1.510	.132
Highest level of your mother's education	.053	.039	.078	1.359	.175
Number of siblings	-.009	.027	-.013	-.319	.750
Please indicate your gender	.099	.051	.080	1.937	.053
What is your age group?	.000	.049	.000	.003	.998
What is your highest level of formal education?	.092	.135	.028	.684	.494
Institutional	.447	.052	.350	8.679	.000

The results presented in Table 4.27(b) indicate that institutional factors in absolute terms were the most significant factors in influencing learners' perception on the role of TVET towards socio-economic development. Other influential factors were not significant. Institutional factors were most significant because they influenced students' perception on the role TVET towards socio-economic development. These findings concurred with Muya (1993) and Kerre (1993). According to Muya and Kerre institutional factors influenced students' perceptions because students interacted more with their teachers and colleagues in the process of learning and quite often their views had an impact on students' perceptions.

It is important to note that institutional factors were most influential on students' perception because students spent much time in TVET institutions during their. Also it is at the institutions where they shared ideas with their lecturers and colleagues. This interaction often would influence their perception. They also

shared their aspirations with each other. At the same time they would get a lot of information from guest speakers invited to speak to them on career days especially on the requirements of the job market. These findings were similar to those of Omulando (1988) on students' perceptions.

4.5 Students' suggestions for addressing challenges facing TVET in Kenya

After identifying the challenges, the study sought from the respondents how these challenges should be addressed. The students suggested a number ways of addressing these challenges. Their responses are shown in Table 4.28.

Table 4.28: Students' suggestions for addressing TVET challenges

Suggestions to challenges	Frequency N	Percent %
Provision of relevant training equipment	172	31.2
Provide industrial attachment	191	34.6
Provide loans to trainees	189	34.2
Total	552	100.0

The data in Table 4.28 shows analysis students' suggestions for addressing challenges facing TVET programmes. Some 34.6 percent of the students suggested that TVET should endeavour to provide industrial attachment as a way of linking the training with the industries. The advantage of this was that it would enable the trainees to have industrial experience while training and be able to know what is expected by the industry. This would also enable the students to market themselves in the job market and fit more easily in the world of work on completion of the training.

Another 34.2percent of the students suggested that graduates of TVET programmes should be provided with loans in order to enable them to start their own business at the end of their programmes. This was a very good indicator that about one third of the trainees were willing and ready to engage in self-employment after graduating from TVET institutions.

The other suggestion by students was the provision of relevant training equipment during training. This was in response to the challenge of few equipment being available during training (Table 4.14). In order to address this challenge 31.2 percent of the students suggested that TVET institutions should provide relevant and adequate equipment for training.

Therefore, the study findings revealed that the students' challenges and concerns revolved mainly around issues of industrial attachment and capital to start income generating activities after completing TVET programmes.

4.6 Lecturers' suggestions for addressing TVET challenges

After analyzing students' suggestions on addressing challenges facing TVET, attention was focused on lecturers' suggestions on how to deal with challenges facing TVET programmes. The relevant data is contained in Table in Table 4.29.

Table 4.29: Lecturers' suggestions for addressing TVET challenges

Suggestions to address TVET Challenges	Frequency n	Percent %
Increase in Government Funding	62	83.7
Improved TVET Policies	7	9.5
Expansion of TVET Institutions	4	5.4
Streamlining of TVET courses with Universities	1	1.4
Total	74	100

The information captured in Table 4.29 indicates that lecturers suggested four ways of addressing challenges facing TVET programmes. Some 83.7s percent of the lecturers suggested increase in government funding to TVET institutions. This was because inadequate funding translated in to inability to purchase training equipment and materials that could be used towards improvement of the existing infrastructure in TVET institutions including other capital developments.

Another suggestion raised by 9.5 percent of the lecturers was the need to improve TVET policies. In this regard there was need to ensure that the Kenya education system as a whole incorporates TVET programmes right from primary school to secondary schools. Technical subjects such as art and craft would be made compulsory at primary school level. At the secondary level subjects such as art, power mechanic, carpentry among others should also be offered and made compulsory. This was likely to ensure high transition rates from secondary education to TVET institution.

The lecturers (5.4 percent) also suggested that the challenge of expansion should also be addressed by the government. This was in response to the ever increasing numbers of trainees in the TVET institutions every year. Hence there was need to expand these facilities in TVET institutions in order to accommodate the increasing numbers of students who were looking for opportunities to pursue TVET courses. The last challenge identified by lecturers that faced TVET was competition from universities. Some 1.4 percent of the lecturers suggested that the TVET courses should be streamlined with university courses. This was very necessary because the majority of students were looking forward to going for further studies at the universities. Therefore the study established that there was need to streamline TVET programmes at TVET institutions with those of the

universities in order to allow as many students who wanted to further their studies at the university level to do so.

To sum up this section, the analysis revealed that institutional factors in terms of relevance of curriculum, quality assurance and its management were perceived by both lecturers and students to be influential in the improvement and development of TVET programmes and in turn enhancing socio-economic development in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the major findings of the study, the conclusions of the study. Finally it makes pertinent recommendations on the basis of the main findings.

5.2 Summary of the study

The purpose of this study was to investigate students' perceptions on the role of TVET programmes on socio-economic development in Kenya. Five specific research objectives of the study were formulated to guide data collection and analysis. These were: to assess the effect of TVET programmes on students' perceptions towards their role in socio-economic development; determine students' perceptions on the influence of contextual factors on the role of TVET on socio-economic development; establish the perception of learner characteristics towards the role of TVET programmes on socio-economic development, to examine students' perception on the influence of institutional factors towards the role of TVET programmes on socio-economic development and the combined effects of contextual, learner and institutional factors on students' perceptions on the role of TVET programmes on socio-economic development.

The study design was mixed method including descriptive survey and regression analysis. The study was conducted among students and lecturers in selected public and private TVET institutions in Kenya, selected industries and government ministries. These institutions were sampled across the country and effort was made to ensure that the whole country was represented according to the location of these institutions. The institutions were sampled using quota sample with the

expert advice of the supervisors, since the study aimed at getting views from both learners and lecturers from across the country.

The review of related literature covered, the three main themes addressed by the objectives of the study and other relevant literature to this study. An overview of the development of TVET in Kenya since independence (1963) was also presented. TVET development in developing world with special emphasis in Africa was also reviewed. The literature reviewed too looked at Kenya's policies on TVET especially in light of vision 2030. All this was reviewed with the aim of indicating the knowledge gap that the study needed to be filled. The study identified the role of TVET on socio-economic development in Kenya as an aspect that needed to be addressed by this study.

During data collection seventeen (17) TVET institutions were involved in the study out of which twelve (12) of these institutions were public and five (5) were private (See Appendix V). Five heads of departments in five industries and three (3) officials in the Ministry of Higher Education Science and Technology, two (2) officials in the Ministry of Industrialization were also involved in the study. From the TVET institutions five hundred and fifty two (552) students filled in the questionnaires out of the expected five hundred and eighty (580). Seventy four lecturers (74) filled in the questions out of the expected eighty (80). All the heads of departments in the five industries participated in the interviews as well as the officials in the Ministry of Industrialization and the Ministry of Higher Education Science and Technology.

The questionnaire was the major research instrument used in data collection. This was further supplemented by interview schedules and documentary review.

Research findings were analyzed both quantitatively and qualitatively. The quantitative data was processed and analyzed with the help of the SPSS software programme and were summarized into frequency tables and percentages. Qualitative data was subjected to content analysis from which relevant information was extracted. Overall, the interpretation of the results points to the fact that TVET does affect socio-economic development in Kenya positively.

5.3. Summary of the major findings

The major findings of this study are anchored on the hypotheses. We begin with findings on assessment of the effect of TVET programmes on students' perceptions.

5.3.1 Findings based on hypothesis H₁

The findings relating to students' views on the influence of TVET programmes on socio-economic development revealed that majority of students (89.5 percent) agreed that the labour market had affected the development of TVET. Another 80.4 percent of the students were of the opinion that TVET curriculum affected the development of TVET. In addition 85.5 percent of the students stated that quality of trainers affected TVET development while 81.9 percent of the students stated that adequacy of training equipment and materials affected the development of TVET. This concurred with 66.5 percent of the lecturers who agreed that these factors affected the development TVET and socio-economic development of Kenya.

The findings therefore indicated that there was a significant relationship between TVET perception by students and socio-economic development. The regression

analysis revealed that 17.9 percent of the variables identified in this study predicted the influence of TVET on socio-economic development. Thus the hypothesis was rejected. These findings concurred with those of Ng'ethe and Ndua,(1992).

5.3.2 Findings based on hypothesis H₂

The contextual factors were investigated in terms of parental level of education and the number of siblings in the family. The study findings seemed to suggest that:

- i) Parental level of education did not significantly influence learners' perception on the role of TVET programmes on socio-economic development in Kenya. However, this was despite the fact that most of the fathers 64.7 percent had college and university level of education while 44.8 percent of the mothers had college and university level of education.
- ii) The other factor under consideration in respect to contextual factors was family size. This was addressed in terms of the number of siblings students in technical training institutions had. The study established that the number of sibling in a family was not significant to learners' perception on the role of TVET programmes on socio-economic development.

However, the findings showed majority of the students (87.5 percent) came from families that had more than three siblings. This in effect meant that these students were not affected by the number of their siblings in terms of them accessing and pursuing technical education. It

was presumed that their parents would afford TVET education programmes for their children.

The testing of hypothesis 2 revealed that relationship between contextual factors and students' perception on TVET on the role towards socio-economic development was not significant. This meant that the hypothesis was rejected since the p value was greater than 0.05 percent test of significance. This further meant that the contextual factors identified in this study could not predict the influence of students' perceptions on the role of TVET programmes on socio-economic development. This finding implied the need for another study to establish other contextual factors that could predict socio-economic development.

5.3.3 Findings based on Hypothesis H₃

The study had sought the effects of learners' factors in TVET on socio-economic development in Kenya, three aspects i.e. relevance, impact and influence were identified to elicit the actual impact of TVET on socio-economic development in Kenya from the students' point of view. This included relevance of TVET to employment opportunities, self employment, further studies, nation building, and standard of life.

(i) The results showed that 70.5 percent of the students agreed that TVET was relevant to employment opportunities in varying degrees. It was evident from the students' views that majority of them were taking technical courses because they believed that TVET provided an avenue to enter in to the labour market.

(ii) The findings also revealed that 74.9 percent of the students indicated TVET as relevant to self employment opportunities. This meant that most of the students

were looking forward to engage in self employment after graduating from TVET institutions.

(iii) The findings also revealed that 77.7 percent of the students indicated TVET as being relevant to further studies. This meant that, most of the students looked forward to furthering their training in TVET courses after their completion at the technical training institutes.

(iv) The findings also revealed that 71 percent of the students found TVET as relevant to the standard of life. Standard of life referred to the quality of life that an individual would enjoy having pursued TVET training. This would further be measured by the level of income one was able to generate from either self employment or salaried employment or engaging in any income generating activity using skills acquired in TVET institutions.

(v) Further data analysis revealed that 78.1 percent of the students found TVET as relevant to nation building. This meant that most students understood and agreed that TVET did affect socio-economic development in Kenya and this was often seen by various activities of national building.

The reasons why students joined TVET programmes included: job interest, desire to enter a well paying job, gaining self employment skills in this area of expertise and qualification for further training. The findings reveal that;

- i) Some 89.7 percent of the students indicated that job interest had influenced their choice of TVET courses. This meant that majority of the students were aware that TVET courses would lead them to getting jobs.

ii) Another 92 percent of the students indicated that acquisition of skills for self employment influenced their choice of TVET courses. This meant that the driving force for these students to pursue TVET course was acquiring skills for self employment.

iii) Another 86.7 percent of the students indicated that a well paying job influenced their choice of TVET course. This meant that, the students were aware that TVET courses often lead to well paying jobs. As such majority of them were pursuing TVET courses due to the fact that they would get well paying jobs.

iv) Another 80.8 percent of the student indicated that the need to acquire qualifications for further training influenced their choice of TVET courses in technical training institutions. This meant that the majority of students recognized the need for furthering their education in order to acquire more specialized skills.

In relation to TVET programmes' influence on socio-economic development, the student views revealed that majority of students (89.5 percent) found the labour market affected development of TVET. Another 80.4 percent of the students found that TVET curriculum influenced the development of TVET. Some 85.5 percent of the students agreed that quality of trainers affected TVET development while 81.9 percent of the students indicated that adequacy of training equipment and materials impacted the development of TVET programmes. This concurred with 66.5 percent of the lecturers who agreed that these factors affected the development TVET and socio-economic development of Kenya.

On testing hypothesis 3, the findings revealed that there was no significant relationship between learner factors identified in this study and students' perception towards the role of TVET on socio-economic development. This therefore meant that the hypothesis was rejected since the p value derived from the regression analysis was greater the test level of significance of 0.05. This meant that the learner factors identified in this study were not predictors of socio-economic development.

5.3.4 Findings based on hypothesis H₄

The study investigated the effects of institutional factors on students' perceptions on the role of TVET programmes on socio-economic development in terms of lecturers' qualifications, teaching and learning facilities and TVET curriculum.

The findings indicated that;

- (i) some 53.4 percent of the lecturers had training in technical education and this was a good indicator that they could relate well the effects of TVET on socio-economic development.
- (ii) majority of the lecturers (71.6 percent) had taught for over 5 years and this indicated that there was a likelihood that they had good understanding of the TVET issues and its effect on socio-economic development in Kenya.
- (iii) some 71.6 percent and 28.4 percent of the lecturers used lecture method and demonstration methods respectively . This suggested that the majority of the lecturers did not use the most appropriate method, that is, demonstration in delivering TVET programmes.

(iv) some 48.6 percent of the lecturers indicated that they seldom attended in-service courses. This meant that most lecturers lacked the advantage of being updated in their training in respect to the courses they taught.

(v) some 67.6 percent of the lecturers found that the training facilities were adequate for training. These were mainly public technical training institutions where the researcher, during data collection observed that most of the training equipment had been upgraded in the recent past. However, in some private technical training institutions they also had adequate and updated training facilities.

(vi) some 68.8 percent of the students find training equipment as adequate in TVET training in Kenya. This meant that the current training equipments were relevant to the current training in TVET institutions and this was ensuring that the graduates were well trained.

(vii) Overall therefore, teaching and learning facilities were available and relevant to the current training at TVET institutions. This therefore meant that majority of the lecturers 67.6percent and 68.8 percent students were of the view that the current teaching and learning facilities were available and relevant in TVET institutions.

In relation to the relevance of TVET curriculum, the study established that 81.4 percent of the students and 87.7 percent of the lecturers found the current TVET curriculum as being relevant to socio-economic development in Kenya. Therefore it was important to note that TVET did affect socio-economic development in

terms of the current curriculum being offered in both public and private TVET institutions.

5.3.5 Findings based on hypothesis H₅

The study investigated the combined effects of contextual, learner and institutional factors on students' perception on the role of TVET programmes on socio-economic development. The findings indicated that there was a significant relationship between the combined effect of contextual, learner and institutional factors on students' perceptions on the role of TVET programmes on socio-economic development. The hypothesis was accepted. This was supported by 12.2 percent of the variations that could predict students' perceptions. On the relative importance the study revealed that institutional factors 35 percent in absolute terms were the most significant factors in influencing learners' perceptions on the role of TVET programmes towards socio-economic development.

5.3.6 On students' preparedness after TVET training programmes

With regard to students' preparedness for the job market after TVET training programmes, the study sought to establish the extent to which students felt equipped with skills for the job market. The findings indicated that;

- i) Some 75.4 percent of the students found themselves as adequately prepared in terms of skills acquisition. This meant that as the students went through the training they were able to gauge themselves in terms of how they acquired skills and how ready they could use the acquired skills in the job market.
- ii) Another 88 percent of the students further stated that they were adequately prepared for the job market. This meant that the students were relating

well with their courses of study and they were able to gauge their readiness for the labour market where they were expecting to go after their training.

5.3.7 On mismatch between TVET and socio-economic development in Kenya

The study also sought to establish from both the students and the lecturers the extent of the mismatch between TVET and socio-economic development. The findings revealed that;

There was a high level of mismatch between TVET and socio-economic development and this was as indicated by 52.9 percent of the students who rated the extent of the mismatch as great and 67.6 percent of the lecturers who rated the mismatch as high. The difference in the rating between students and lecturers could be attributed to the fact that the students may not have had sufficient knowledge about the requirements of the job market compared to their lecturers who were older and more experienced.

5.3.8. On fast tracking of socio-economic development through TVET programmes in Kenya

In relation to whether TVET does fast track socio-economic development, the study sought to establish students' and lecturers' views. The findings revealed that;

Some 93.2 percent of the lecturers found that TVET did fast track socio-economic development. Another 55.4 percent of the lecturers indicated that provision and acquisition of technical skills were the best ways that TVET programmes could fast track socio-economic development. Some 27 percent of the lecturers indicated that training of middle level manpower through TVET institutions would also fast track socio-economic development while 18 percent of

the lecturers indicated that TVET programmes would fast track socio-economic development if marketing of TVET products was enhanced.

However, on testing hypothesis 4, the study findings indicated that institutional factors were significant in predicting students' perception on the role of TVET on socio-economic development. This was evidenced by the analysis of the level of test of significance that was less than $p=0.05$. Hence the hypothesis was accepted. The study also revealed that institutional factors in TVET predicted 17.9 percent of socio-economic development.

5.3.9 On challenges facing TVET in relation to socio-economic development in Kenya

The study also sought to establish the challenges facing TVET in relation to socio-economic development. The findings indicated that;

- i) About 44.4 percent of the students found that the major challenge facing TVET to be inadequate training facilities for example, inadequate workshops, laboratories, classes, text books and furniture among others. While 31.0 percent of the students found that inadequate equipment was another challenge facing TVET. The issue of equipment would include items such as machines, tools, computers among others.
- ii) The lecturers identified four major challenges facing TVET in Kenya. These challenges included: lack of room for expansion (6.8 percent), inadequate funds from the government (48.6 percent), political interference (9.5 percent) and competition from universities (35.1 percent). According to the lecturers these challenges were hindering

TVET development in Kenya and consequently its role in socio-economic development.

5.3.10 Suggestions towards improvement of TVET programmes

- i. In order to address these challenges, the students suggested that during training, adequate training equipment should be provided (31.2 percent). Industrial attachment (34.6 percent) should also be enhanced to enable them have experience of the real world of work where they were likely to go after training. They also suggested that students should be provided with loans (34.2 percent) after training so as to help them start small businesses after training. In this way they would contribute to socio-economic development of the country.
- ii. The lecturers on their part, suggested that the challenges should be addressed by way of increasing government funding to TVET institutions (83.8 percent), streamlining the TVET courses with the universities curriculum (1.4 percent), improving government policies on TVET(9.5 percent) and finally expanding the TVET institutional capacities(5.4 percent).

5.4 Conclusions of the study

On the basis of the findings the following conclusions have been advanced:

- i) Students felt that TIVET programmes made a contribution towards socio-economic development in Kenya.
- ii) The results based on hypothesis 2 on contextual factors namely parental level of education and the size of the family revealed that they were not

significant in predicting the perceptions of students towards the role of TVET programmes on socio-economic development.

- iii) The findings further suggested that learners' factors identified in terms of gender, age and level of education at entry behavior to TVET institutions were not significant in predicting students' perceptions on the effect of TVET programmes on socio-economic development.
- iv) The findings of the study indicated that institutional factors in TVET were significant in predicting students' perceptions on the role of TVET programmes on socio-economic development. Testing of hypothesis 4 reveals that institutional factors are significant in predicting the effect of TVET on socio-economic development. In this case the hypothesis was accepted.
- v) The findings also indicated that there was a significant relationship between the combined effect of contextual, learner and institutional factors on students' perceptions on the role of TVET programmes on socio-economic development. This hypothesis was accepted. This was supported by 12.2 percent of the variations that could predict students' perceptions. On the relative importance the study revealed that institutional factors 35 percent in absolute terms were the most significant factors in influencing learners' perceptions on the role of TVET programmes towards socio-economic development.
- vi) The study also suggested that students were adequately prepared after TVET training programme. This was evidenced by the fact that majority of the students indicated that they were confident in terms of

skills acquisition and readiness for the job market. Therefore students' preparedness influenced their perception on the role of TVET programmes on socio-economic development.

- vii) The study has indicated that there was a mismatch between TVET and socio-economic development in Kenya. The extent of this mismatch differed from students' and lecturers' points of view. Therefore the mismatch between TVET and socio-economic development affected students' perceptions on the role of TVET programmes on socio-economic development.
- viii) The study further revealed that both students and lecturers agreed that TVET did fast track socio-economic development in Kenya. This was evidenced by 98 percent of the student and 100 percent of the lecturers who indicated that TVET fast tracks socio-economic development.
- ix) The study finally concluded that there were a number of challenges facing TVET in relation to socio-economic development in Kenya. These challenges according to the findings of the study continued to inhibit the effect of TVET programmes on socio-economic development in Kenya. However, the study also suggested that if these challenges were fully addressed then TVET would continue to play its rightful role in promoting socio-economic development in Kenya.
- x) Overall, the study concluded that only institutional factors were significant in predicting students' perceptions this study since the contextual and

learner factors indentified in this study were found not to be significant.

5.5 Recommendations from the Study

On the basis of the findings and conclusions of the study, a number of recommendations have been made. These recommend that:

- i) All TVET institutions, whether public or private should ensure that they are well equipped in terms of teaching and learning materials, teaching and learning facilities and the training equipment. This would ensure that trainees received proper training for skills acquisition in readiness for the world of work. The quality and standards assurance arm in the MHES&T should reinforce this for quality purposes.
- ii) All TVET institutions should ensure that they upgrade their training equipment since these were very pertinent for students' skills acquisition and also in ensuring their relevance in the job market.
- iii) The government should increase funding to TVET institutions for purposes of expansion of their capacities and acquisition of the modern training equipment. This would further enhance student training.
- iv) TVET institutions should work very closely with the industries in terms of curriculum review and development in order to ensure the relevance of TVET courses to the industries.
- v) Industries should enhance training in TVET by providing more attachment places for trainees so as to offer trainees a taste of the

world of work. This would enhance students' preparedness in skills acquisition for the job market.

- vi) In order to minimize the competition between TVET institutions and universities, policies should be put in place to streamline the training at both levels. This would ensure that universities train at a higher level while the TVET institutions continue to train middle level manpower but with room and opportunities for further training at the universities.
- vii) The government should reconsider the policy of taking over and converting existing TVET institution in to universities. This if continued, would undermine the role of TVET in socio-economic development in terms of producing middle level manpower.
- viii) The government should consider establishing a fund that would enable graduates from TVET institutions to borrow soft loans with good terms of payment. This would enable most of the graduates from TVET institutions to venture into business immediately after completing their training instead of looking for jobs. This would further ensure they engaged-in income generating activities and in so doing create job opportunities which would also enhance socio-economic development Kenya.
- ix) In order for TVET to fast track socio-economic development, policies should be put in place to ensure that TVET is part of the national curriculum in the education system as is the case with most of the Newly Industrialized Countries (NICs) especially in the East.

- x) Emphasis in the TVET curriculum should be on skills acquisition for innovations and technological advancement. This in the long run would enhance and promote socio-economic development in Kenya.

5.6 Suggestions for further studies

The study suggested a number of areas for further research. These were:

- i) A tracer study on the extent to which graduate students of TVET institutions use knowledge and skills acquired and their level of innovativeness and creativity should be studied.
- ii) Other related learner and contextual factors on students' perception on TVET programmes on socio-economic development should be assessed such as learner academic achievement, family income, job aspirations and peer influence.

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APPENDIX I

STUDENT QUESTIONNAIRE

Dear respondent,

This is to request you to spare some time and fill this questionnaire. The purpose of this questionnaire is to collect data for my PhD studies that I am currently pursuing at the University of Nairobi. I am studying the Effects of Technical Education on Socio-economic Development in Kenya. I take this opportunity to assure you that the information you will provide will not be used for any other purpose safe that which is stated here. All confidentiality will be maintained. Please respond to all the questions as honestly as possible. Do not write your name anywhere in this document.

SECTION A

1. Please indicate your gender. Male [] Female []
2. What is your age group?
 - 15-19 years []
 - 20-24 years []
 - 25-29 years []
 - 30-34 years []
 - Over 35 years []
3. What category is your institution?
 - Public Technical []
 - Private Technical []
4. What is your highest level of formal education
 - KCPE []
 - 'O' Level []
 - 'A' level []
5. What is the highest level of your parent's education? Tick appropriately

Level of Education	Father	Mother
Primary		
Secondary		
College		
University		

6. How many siblings are there in your family?
 - i) 1-2 []
 - ii) 3-4 []
 - iii) 5-6 []
 - iv) Over 7 []
7. Please identify the course you are currently pursuing from the following:
 - i) Accounting
 - ii) Business
 - iii) Secretarial
 - iv) Food and Beverage
 - v) Institutional management

- vi) Applied Biology
- vii) Mechanical Engineering
- viii) Motor Vehicle mechanic
- ix) Electrical engineering
- x) Building and Construction
- xi) Any other (Specify) _____

SECTION B

8. To what extent is TVET education relevant to the following?

Area of Relevance	Very Relevant 5	Moderate relevant 4	Fairly relevant 3	Not relevant 2	Very Irrelevant 1
Employment opportunity					
Self-employment					
Further education					
Nation Building					
Social Cohesion					
Moral Integrity					
Quality standard of life					

9. What would you say is the effect of Technical Education on employment opportunities in Kenya today?

- i) Very relevant 5 []
- ii) Moderately relevant 4 []
- iii) Fairly relevant 3 []
- iv) Not relevant 2 []
- v) Very Irrelevant 1 []

10. How would you rate the impact of Technical Education on Socio-economic development in Kenya today?

- i) Very high impact 4 []
- ii) High impact 3 []
- iii) Moderate impact 2 []
- iv) No impact 1 []

11. To what extent do you think the following factors affect the development of technical education t in Kenya?

Factors	Very Effective 4	Effective 3	Less Effective 2	Not Effective 1
Trainees attitudes				
Trainers attitudes				
Training facilities				
Government policies on TVET				
Cost of training in TVET				
TVET curriculum				

12. How would you rate the influence of the following factors on the development of technical education in Kenya?

Factors	Very influential 4	Influential 3	Less influential 2	Not influential 1
Labour market needs				
Relevance of TVET curriculum to the job market				
Quality of trainers				
Adequacy of training equipment				
Status of physical facilities used for training				
Relevance of training materials and text books				
Management of TVET programmes				

13. To what extent did the following reasons influenced your decision to join technical education?

Reasons for joining Technical Education	Very great extent 4	Moderate extent 3	Somewhat extent 2	No extent 1
In order to enter a job that interests you				
In order to enter a well paying job				
To obtain knowledge for informed living				
To gain self-employment skills				
To obtain qualification for further training				

14. a) Do you think there is a mismatch between TVET and socio-economic development in Kenya today?

Yes []

No []

b) If your answer to (a) above is **yes**, how would you rate the extent of this mismatch?

i) Very great 3 []

ii) Great 2 []

iii) Not very great 1 []

c) In your opinion list four aspects of this mismatch

i).....

ii).....

iii).....

iv).....

15. How relevant are the following aspects of TVET to socio-economic development?

TVET Aspects	Very Relevant 4	Relevant 3	Fairly Relevant 2	Not Relevant 1
Current TVET curriculum				
Skills learned in Training Institutions				
Skills demanded by the industry				
Mechanism for quality assurance				
Existing training equipment				
Involvement of the private sector in curriculum design & development				
Current organization and administration of TVET				

16. In relation to your course of study, how would you rate the following teaching and learning facilities in your institution?

Teaching and Learning facilities	Very Adequate 5	Adequate 4	Less Adequate 3	Not Adequate 2	Not Available 1
Training equipment					
Text books					
Desks, ,					
Chairs					
Chalk board, ..					
Library facilities					
Laboratories					
Workshops					

17(a) Considering what your programme is expected with practical skills, how do you rate the following in your institution?

Course Syllabus coverage	Very Adequate 4	Adequate 3	Very inadequate 2	Not Adequate 1
Learning hours for skills acquisition and development				
Time allocated for practical lessons				
Qualified trainers				
Time allocated for coverage of the course				

b) Considering that your programme is expected to equip you with practical skill, does your institution organize trips to the following places?

- i) Industries Yes [] No []
 ii) Factories Yes [] No []
 iii) Jua Kali Industries Yes [] No []
 iv) Other(s)
 Specify.....

c) Does your institution organize industrial attachment for you?
 Yes [] No []

15. How would you rate overall the current training equipment in your course/ institution?

- i) Very Modern 3[]
 ii) Modern 2[]
 iii) Outdated 1[]

16. a) How many hours of practical lessons are allocated for skills acquisition and development per week in your course?

b) How would you rate the time allocated for skill acquisition and development in your course?

- i) Very adequate 3[]
 ii) Adequate 2[]
 iii) Not adequate 1[]

17. By the time you finish your training, how would you rate your preparedness in terms of skills acquired during training?

- i) Very adequately prepared 4[]
 ii) Adequately prepared 3[]
 iii) Fairly prepared 2[]
 iv) Not Adequately prepared 1[]
 v)

18. In relation to work expectations, how would you rate your preparedness for the job market?

- i) Very adequately prepared 4[]
- ii) Adequately prepared 3[]
- iii) Less Adequately prepared 2[]
- iv) Not prepared 1[]
- v)

19. How would you rate the extent to which TVET contributes to socio-economic development in Kenya today?

- i) Contributes very greatly 4[]
- ii) Contributes moderately 3[]
- iii) Contributes fairly 2[]
- iv) No contribution 1[]

20. a) Do you think TVET has any effect on socio-economic development in Kenya?

- i) Yes []
- ii) No []

b) If your answer is **yes** for (a) above, suggest three ways that this can be done.

- i)
- ii).....
- iii).....

21. a) Does TVET have any challenges?

- Yes [] No []

b) If 'Yes', List three such challenges

- i).....
- ii).....
- iii).....

22. Suggest three ways of making TVET education more relevant to socio-economic development in Kenya;

- i)
- ii)
- iii) -

23. What would you like to do most when you finish your training?

-
-
-

Thank you for sparing your time and responding. God bless.

APPENDIX II

QUESTIONNAIRE FOR LECTURERS IN TVET INSTITUTIONS

Dear respondent,

This is to request you to spare some time and respond to the following questions. The purpose of this questionnaire is to collect data for my PhD studies that I am currently pursuing at the University of Nairobi. I am studying the Effects of Technical Education on Socio-economic Development in Kenya. I take this opportunity to assure you that the information you will provide will not be used for any other purpose safe that which is stated here. All confidentiality will be maintained. Please respond to all the questions as honestly as possible.

1. Please indicate your gender [] Male [] Female
2. Please indicate the name of your Institution:
.....
3. What category is your institution? Public [] Private []
4. Which department are you teaching currently?
.....
5. How long have you taught in your teaching career (in years)?.....
6. What subject(s) do you teach?
.....
7. How many trainees do you have in your subject area?.....
8. Are you trained to teach TVET courses in your college? Please indicate your professional qualification.....
9. How often do you attend in-service courses, seminars/workshops on TVET?
Very Frequently 4[] Frequently 3[] Less Frequently 2[] Seldom 1[]
10. Which methods/techniques are recommended by KIE for teaching TVET in your department? Please indicate three methods your frequently use;
 - i).....
 - ii).....
 - iii).....
11. Please comment on the availability of teaching and learning materials in your college.
Very Adequate 4[] Adequate 3[] Inadequate 2[] Not Adequate 1[]

12. What support do you received from the government to promote effective teaching of TVET in your college? Please specify three such support;

i).....

ii).....

iii).....

13. Please indicate the effect of TVET on socio-economic development in Kenya today.

Very high Influence 4[] High Influence 3[] Fair Influence 2[]

No Influence 1[]

14. What factors affect the development of TVET in Kenya today? Please indicate 4 such factors;

i).....

ii).....

iii).....

iv).....

15. Do you think there is a mismatch between TVET and socio-economic development in Kenya today? Please indicate the extent of this mismatch.

Very high mismatch 4[] High mismatch 3[] Fair mismatch 2[] No mismatch 1[]

16. How would you rate the relevance of the current TVET programmes on socio-economic development in Kenya?

Very relevant 4[] Relevant 3[] Less relevant 2[] Not relevant 1[]

17. Do you think TVET can fast track socio-economic development in Kenya?

If yes, Please state three way how this can be done;

i).....

ii).....

iii).....

18. Are there policy issues that should be readdressed in order for TVET to fast track socio-economic development? If yes, please state three such policy issues;

i).....

ii).....

iii).....

19. Please state three main challenges facing TVET in light of socio-economic development in Kenya?

- i).....
- ii).....
- iii).....

20. What would you suggest as solutions in addressing these challenges?

- i).....
- ii).....
- iii).....

Thank you for your time and responses. God bless.

APPENDIX III

INTERVIEW SCHEDULE FOR HEADS OF DEPARTMENTS IN INDUSTRIES

Dear respondent,

This is to request you to spare some time and respond to the following questions. The purpose of this interview schedule is to collect data for my PhD studies that I am currently pursuing at the University of Nairobi. I am studying the Perceived Effects of Technical Education on Socio-economic Development in Kenya. I take this opportunity to assure you that the information you will provide will only be used for academic research. All confidentiality will be maintained. Please respond to all the questions as honestly as possible.

1. What is the name of your Institution?
2. What category is your institution?
3. Which department are you heading currently?
4. How long have you been head of your department?
5. How long have you been involved in production in your industry?
6. How many staff do you have in your department?
7. How many of them are from TVET institutions?
8. How often does your staff attend in-service courses, seminars/workshops on TVET?
9. Please comment on the relevance of TVET training to your industry.
10. Do you think there is a mismatch between TVET and socio-economic development? Please comment.
11. How relevant are the TVET training programmes to your industry?
12. Would you like to be involved in curriculum design and development for TVET? Please comment.
13. What relationship do you think exists between TVET and socio-economic development?
14. What are your views on the impact of TVET on socio-economic development?
15. Do you agree that TVET affects socio-economic development in Kenya today? Please comment
16. What policies would you recommend in TVET so as to promote socio-economic development in Kenya?
17. What else would you like to say?

Thank you for your time and responses. God bless.

APPENDIX IV

INTERVIEW SCHEDULE FOR GOVERNMENT MINISTRY OFFICIALS

Dear respondent,

This is to request you to spare some time and respond to the following questions. The purpose of this interview schedule is to collect data for my PhD studies that I am currently pursuing at the University of Nairobi. I am studying the Perceived Effects of Technical Education on Socio-economic Development in Kenya. I take this opportunity to assure you that the information you will provide will only be used for academic research. All confidentiality will be maintained. Please respond to all the questions as honestly as possible.

1. What is the name of your ministry?
2. Which department are you heading currently?
3. How long have you been head of your department?
4. How many staff do you have in your department?
5. How many of them deal directly with TVET institutions?
6. How long have you been involved in TVET programmes?
7. What is your opinion on the trend of TVET in Kenya for the last one decade?
8. How often do you organize in-service courses, seminars/workshops on TVET?
9. Please comment on the relevance of TVET training programmes to the industry in Kenya.
10. Do you think there is a mismatch between TVET and socio-economic development? Please comment.
11. How relevant are the TVET training programmes to socio-economic development?
12. Have you been involved in curriculum design and development for TVET? Please comment.
13. How does TVET affect socio-economic development in Kenya? Please comment
14. What are your views on the impact of TVET on socio-economic development?
15. Do you agree that TVET affects socio-economic development in Kenya today? Please elaborate.
16. What policies would you recommend in TVET so as to promote socio-economic development in Kenya?
17. What else would you like to say?

Thank you for your time and responses. God bless.

APPENDIX V

List of TVET Institutions Sampled for the Study

A. Public TVET Institutions

Name of Institute	Location
1. Kaimosi Technical Training Institute	Kakamega
2. Kiambu Institute of Science and Technology	Kiambu
3. Kirinyaga Technical Training Institute	Kerugoya
4. Kisiwa Technical Training Institute	Bungoma
5. Machakos Technical Training Institute	Machokos
6. Masaai Technical Training Institute	Kajiado
7. Nairobi Technical Training Institute	Nairobi
8. Nkabune Technical Training Institute	Meru
9. Rift Valley Institute of Science and Technology	Nakuru
10. Rift Valley Technical Training Institute	Eldoret
11. Rwika Technical Training Institute	Embu
12. Thika Technical Training Institute	Thika

B. Private TVET Institutions

1. Bell Institute of Technology	Nairobi
2. Cornerstone Training College	Nairobi
3. Nairobi Aviation College	Nairobi
4. Sacred Training Institute	Nairobi
5. Zeetech College	Nairobi

C. Ministries

1. Ministry of Higher Education Science and Technology
2. Ministry of Industrialization
3. Selected Industries (5)



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Date: **6th June, 2011**

Daniel Komo Gakunga
 University of Nairobi
 P. o. Box 30197
 NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on **"Perceived effects of technical education on economic development in Kenya"** I am pleased to inform you that you have been authorized to undertake research in **selected technical institutions in Kenya** for a period ending **31st May, 2012**.

You are advised to report to **the Principals of selected technical institutions in Kenya** before embarking on the research project.

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

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The Principals
 Selected Technical Institutions in Kenya

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THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss DANIEL KOMO
GAKUNGA

of (Address) UNIVERSITY OF NAIROBI
BOX 30197 NAIROBI

has been permitted to conduct research in

.....Location,

.....District,

SELECTED TECHNICAL INSTU^{TU} - Province,
TIONS IN KENYA.
on the topic.....

PERCEIVED EFFECTS OF TECHNICAL
EDUCATION ON ECONOMIC DEVELOP-
MENT IN KENYA.

for a period ending 30TH MAY 2012

NCST/RRI/12/1/SS-011/714

Research Permit No.....

Date of issue 6/6/11.....

Fee received KSHS. 2000.....



Applicant's
Signature

Secretary
National Council for
Science and Technology