ANALYSIS OF INFRASTRUCTURAL SUPPORT AND TRAINER ATTRIBUTES IN TECHNICAL, INDUSTRIAL, VOCATIONAL AND ENTREPRENEURSHIP TRAINING (TIVET) INSTITUTIONS IN KENYA

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H60/10470/2008

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE (FASHION DESIGN AND MARKETING) IN THE SCHOOL OF APPLIED HUMAN SCIENCES OF KENYATTA UNIVERSITY

OCTOBER 2014

DECLARATION

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

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This thesis is dedicated to my beloved husband Mr. Enock Orangi Mirera and our children, Joy Moraa and Moses Ombongi.

ACKNOWLEDGEMENTS

First and foremost: Glory and Honour goes to the Almighty God.

I acknowledge my University supervisors, Dr. Isabella Wandaka and Dr. Lucy Ngige for their guidance during the writing of this thesis. I would also like to extend my gratitude to Dr. David Muigai and Dr. Everlyn Nguku for their professional contribution to this research. Dr. Rose Otieno for professional contribution to this research. I would also like to extend my gratitude to members of the entire Department of Fashion Design and Marketing. Their suggestions, constructive criticisms and encouragement were of immense help in the course of my studies.

I would also like to extend my gratitude all Technical Training Institutes and Institutes of Technology especially to all the respondents whose cooperation made this research a success.

My deepest gratitude goes to my husband Mr. Enock Orangi Mirera and My Children Joy Moraa Orangi and Moses Ombongi Orangi.

My friends Christine Wamboi, Monica Cheruiyot and Isabella Mochire, among others deserve special mention for their academic and moral support.

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LIST OF ABBREVIATIONS/ACRONYMS

AGOA African Growth and Opportunity Act

COTU Central Organization of Trade Unions

DIT Directorate of Industrial Training

FIAC Flanders Interaction Analysis Categories

EPF Education Production Function

FKE Federation of Kenya Employers

GOK Government of Kenya

HoD Heads of Departments

ICT4D Information Communication Technology for Development

ICT Information Communication Technology

IDS Institute of Development Studies

IT Institutes of Technology

KIE Kenya Institute Education

KICD Kenya Institute of curriculum Development

KNEC Kenya National Examinations Council

KESSP Kenya Educational Sector Support Program

MOEST Ministry of Education Science and Technology

MOE Ministry of Education

MDGs Millennium Development Goals

MLHRD Ministry of Labour and Human Resource Development

NGOs Non-Governmental Organizations

NITC National Industrial Training Council

QA	Quality Assurance
RVIST	Rift Valley Institute of Science and Technology
SAGA	Semi-Autonomous Government Agency
SMEs	Small and Medium-sized Enterprises
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
TIVET	Technical, Industrial, Vocational and Entrepreneurship Training
TTIs	Technical Training Institutes
TEP	Technical Education Programmes
UNDP	United Nations Development Programs
UNESCO	United Nations Educational Science and Cultural
VET	Vocational Education and Training

ABSTRACT

The purpose of this study was to analyze infrastructural support and trainer attributes in TIVET institutions in Kenya. Technical, Industrial, Vocational and Entrepreneurship Training (TIVET) is acknowledged as a means of transforming and empowering the youth with skills, knowledge and attitudes to enable them become productive members of the society. The objective of the study were: 1) to establish the qualification of staff in selected institutions offering clothing and textile courses, 2) to determine training needs of staff in the selected TIVET institutions offering clothing and textile courses, 3) to establish the status of equipment and physical facilities used for training in clothing and textile courses and 4) to establish methods used in teaching clothing and textile courses in TIVET institutions. Descriptive survey design was used for the study. The samples included 8 technical institutes and 10 institutes of technology in Kenya offering courses in clothing and textile and were examined by Kenya National Examination Council. The respondents were the principals, deputy principals, lecturers, technicians and students in 18 TIVET institutions. A total of 452 respondents participated in the study (consisting of 250 second year students taking a diploma course in clothing and textile, 18 technicians, 148 lecturers and 36 principals and deputy principals). Questionnaires were 250 for second years, 166 for Lectures and Technicians. Interview schedules were 36 for principal and their deputies and observation check-lists were 250 for students which were used as instruments for the study. The researcher used Statistical Package for Social Sciences (SPSS) tool to analyse the data. Both the qualitative and quantitative data analysis techniques were used. Descriptive statistics such as percentages and frequencies were used to report data. Data were presented in form of frequency tables, bar graphs, and pie charts. The results showed that the academic staff members were academically qualified; however, there was need for them to upgrade their technical skills. The study also found that there was further training need for the academic staff in the institutions studied as indicated by all the staff. The trainings required was in: entrepreneurship, bachelor degree in Clothing and textiles, use of IT in clothing and textile, machine maintenance, Diploma in clothing technology, technical skills upgrading and masters' degree in fashion design. On the status of equipment and physical facilities, the study found that 172 (86%) of the respondents indicated that the facilities were inadequate. On training methods used, the study established that practical work, lecture and teachers' notes, demonstration, questions and answers and class discussion were used often. It was recommended that the Government should provide additional learning and training equipment to replace the out-dated ones. Teachers should go for additional training to upgrade their skills. It was suggested that a study needs to be done to establish the relevance of the curriculum used in TIVET institutions.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

In Kenya, as in many countries, education and training is seen as the fundamental pillar for building human resource foundation for socio economic development, and for enhancing the ability to create employment, innovation and wealth (KESSP, 2005). The Government of Kenya has invested heavily and is also well aware of the potential benefits of technical education. This is evident from the policy statements in national agenda and other policy documents (Kenya Vision 2030 (2007), Poverty Reduction Strategy Papers (2005) and the National ICT4D policy (2006).

Bennell (1999) found that Vocational Education and Training (VET) was not factored in most government and donor poverty reduction strategies in developing countries. This lack of commitment on VET is largely attributed to lack of donor interest and poor funding by many governments. While there is a need to adjust development efforts and build the human resource and capabilities of the poor, vocational education and training has been receiving little or minimal attention. However, in the recent acavities related to Technical, Industrial and Vocational Education and Training (TIVET) have tremendously picked up following increased sensitization workshops for institutional managers, capacity building programs for Head of Department (HoDs), training of lecturers who will be teaching technical subjects that are in TIVET institution under Ministry of Education Science and Technology (MoEST) in Kenya. Institutional managers have not been left behind and have played a key role by modernizing their infrastructure capacity at the institutional level by organizing their own capacity building programs for lecturers to adopt Information

Communication Technology (ICT) in teaching and learning. However, these initiatives vary from one institution to another as clearly indicated in the level of the implementation.

Kenya has set in motion an ambitious program to become a middle level income economy and eventually raise its Gross income per capita by implementing Vision 2030 projects. Kenyan education and training institutions can play a critical role in creating a human resource base that would take science and technology industrialization to the next level of development and thus transform this nation into an industrialized economy.

It is worth noting that TIVET sub-sector is critical to the development of industry's human resource, high quality training services must be delivered by the sector to enhance the productivity and competitiveness. Highly competitive TIVET systems in developing and emerging economies provide much sought after skilled labour that would attract direct foreign investments. It is therefore important to enhance skills of graduates of the TIVET systems through provision of quality training services that are markedly enhanced (TIVET Report, 2011). ICT integration in TIVET must be considered for technological innovations and developments in industry today. This requires trainers and trainees to have the necessary skills to support the use of ICT for teaching and learning. Specialized ICT skills are required in the work place for production and communication, and are seen as an essential complement to traditional content knowledge, in courses such as science, clothing and textile, and engineering (TIVET Report, 2011).

The Ndegwa report of 1970 rooted for the expansion of technical education in order to enhance access. This led to the upgrading of all Technical Trade schools to National Technical Secondary Schools (NTSS) to offer four year pre-technician programmes. The NTSS were thereafter upgraded to Technical Training Institutions (TTI's). As a result of the high demand of skills for self-reliance by school leavers, the local communities in various regions, through self-help efforts and assistance from donors who provided equipment and were able to establish the present day Institutes of Technology. This was done with professional guidance of the government. According TIVET Strategy (2007), TIVET institutions are currently offering post-secondary school technical vocational programmes using the same facilities and equipment installed during their inception, which are now obsolete and need quick fixing in the wake of changing technology advancement. Modernization and industrialization of any given country would largely rely on well equipped students with technical skills that match the job market including clothing and textile courses among other courses in technical education (MOEST, 2007).

According to the Ministry of Higher Education, Science and Technology (2009), Kenya is characterized by a mismatch between skills acquired through the training programmes and those demanded by the labour market, lack of flexibility of curriculum and lack of clear pathways for technical and vocational advancement. Since independence, there have been several Commissions on education and training such as Ominde (1965), Ndegwa (1971), Mackay (1981) and Koech (2000) that recommended actions with varying implications on skills development. The thrust of the reports have been skills for social integration, economic growth, national unity, poverty eradication and reduction of social inequality, among others. According to

GOK (2005), despite the collapse of cotton and textile industries in Kenya, the government, through Vision 2030, has committed itself to revive the industry. Top on agenda in this revival programme include identifying and developing skilled manpower in TIVET institutions.

However, this agenda may be slowed down owing to lack of facilities and capacities in TIVET institutions to cater for graduates of primary and secondary education, wishing to undertake clothing and textiles, has not been fully evaluated. In addition, lack of involvement of stakeholders (clothing and textile industries, universities secondary schools and primary schools) in the management of these institutions has led to irrelevant training programmes, leading to mismanagement of scarce resources, duplication of roles, conflict of jurisdiction, under-utilization of available training facilities, wasteful and unnecessary competition from corridor dress makers and tailors, imports of mitumba and China made clothes (MOEST, 2007).

According to MOEST (2007), the immediate remedy is to undertake the development of a nationwide training strategy and to implement the necessary reforms along with a legislative framework, for a comprehensive TIVET system. There is need for harmonized national TIVET policies, provision of adequate funds and development of positive social attitudes towards training and enhanced management. The increased public funding will boost subsidy among the poor households through loans and bursaries to needy trainees. Efficiency is crucial in a global complex and competitive market, thus requiring well trained profiles that can manage complex creative processes. The clothing and textile course has been designed to train professionals that are able to manage the production of manufactures or designer's

products to the right quality and quantity that can compete equally with international production teams, service purchasers, suppliers and clients.

Experience at the workplace shows that there is a wide gap between skills imparted to TIVET graduates and those needed at the workplace. Practitioners and leader in industry, and indeed governors and managers of TIVET institutions, have repeatedly raised a red flag about this widening gap. The fact that most TIVET institutions' state of affairs has been traced of capacity and capability at institutional level, inefficient TIVET systems, poor training equipment and low funding from government (MOEST, 2005). Thus the analysis of infrastructural support and trainer attributes in TIVET institutions.

1.2 Problem Statement

Without appropriately skilled employees, technical staff and management, the clothing and textile industry will not be locally and internationally competitive. Several studies have been done in the clothing and textile industry. In a study done by Mastamet-Mason and Kachieng'a (2010) on development of competitive advantage in the apparel industry in Kenya, they found that employee education and training need to be encouraged and supported to facilitate the uptake of advanced technology in the industry. They also found that technical capabilities must be the basis of business competitiveness and price optimization. Regarding TIVET, the Sessional Paper number 6 highlights the constraints of the sector such as poor physical and human capacity in management, limited interaction with private sector and current fragmented government administration (Republic of Kenya, 2004). The paper calls for the development of a National Skills Training Strategy and the establishment of the National TIVET Authority. The objective of TIVET is to

provide and promote life-long education and training for self-reliance. According to the Kenya policy review (2007), the challenges facing TIVET institutions include: inadequate facilities and capacities to cater for graduates of primary and secondary education wishing to pursue TIVET. Managing TIVET under various government departments has also posed a challenge to the sector leading to disparities in the training standards. To fill the existing knowledge gap, this study was therefore aimed at analyzing the infrastructural support and trainers attributes in TIVET institutions in Kenya. This study focused on these aspects of infrastructure, training and trainers professional capabilities, in order to recommend intervention measures to improve the facilities in place, training and skills development in the institutions.

1.3 Purpose of the Study

The purpose of this study was to analyze infrastructural support and trainer professional attributes in TIVET institutions offering clothing and textile courses in Kenya.

1.4 Objectives of the Study

The study was guided by the following specific objectives:

1. To establish professional qualifications of staff in selected TIVET institutions offering clothing and textile courses.
2. To determine training needs of staff in the selected TIVET institutions offering clothing and textile courses.
3. To establish the state of equipment and physical facilities used for training clothing and textile courses.

4. To establish the methods used in teaching clothing and textile course in technical institutions.

1.5 Research Questions

The research questions that the study attempts to answer are:

1. What are the professional qualifications of staff in selected institutions offering technical education in clothing and textile courses?
2. What are the training needs of staff in the selected institutions offering technical education in clothing and textile courses with regards to professional teaching career?
3. What is the state of physical facilities and equipment used for training clothing and textile courses?
4. What are the methods used in teaching clothing and textile courses in Technical Institutions?

1.6 Significance of the Study

The findings of this study may be important to policy drafters. By shedding light on staff qualification on TIVET Education in Kenya, the study may also give an insight into the state of infrastructure and equipment. Policy formulators may therefore be in a position to come up with strategies to ensure that TIVET institutions are equipped with the latest equipments in the market and skilled human resources to ensure effectiveness in training.

The findings of the study may also be vital to the TIVET institutions. By analyzing the infrastructural support and trainer attributes, the institutions may be at a position

to adjust on their areas of weaknesses thus improving the quality of training among students.

1.7 Limitation of the study

The study focused on infrastructural support and trainer attributes in selected institutions, which offer industrial and technical training curriculum in clothing and textile. The study did not focus on any other TIVET courses offered in those institutions.

1.8 Delimitations of the study

The study was on infrastructural support in technical, industrial, vocational and entrepreneurship training institutions. These were categorized as institutes of technology and technical training institutes that offer industrial and technical training in clothing and textile.

1.9 Conceptual Framework

The conceptual framework attempts to analyse infrastructural support and trainer attributes in technical, industrial, vocational and entrepreneurship training (TIVET) institutions offering clothing and textile courses in Kenya. The conceptual framework shows the relationship between the variables of the study. The independent variables for the study were the infrastructural support, training needs and teaching methods while the dependent variable was improved and effective TIVET training.

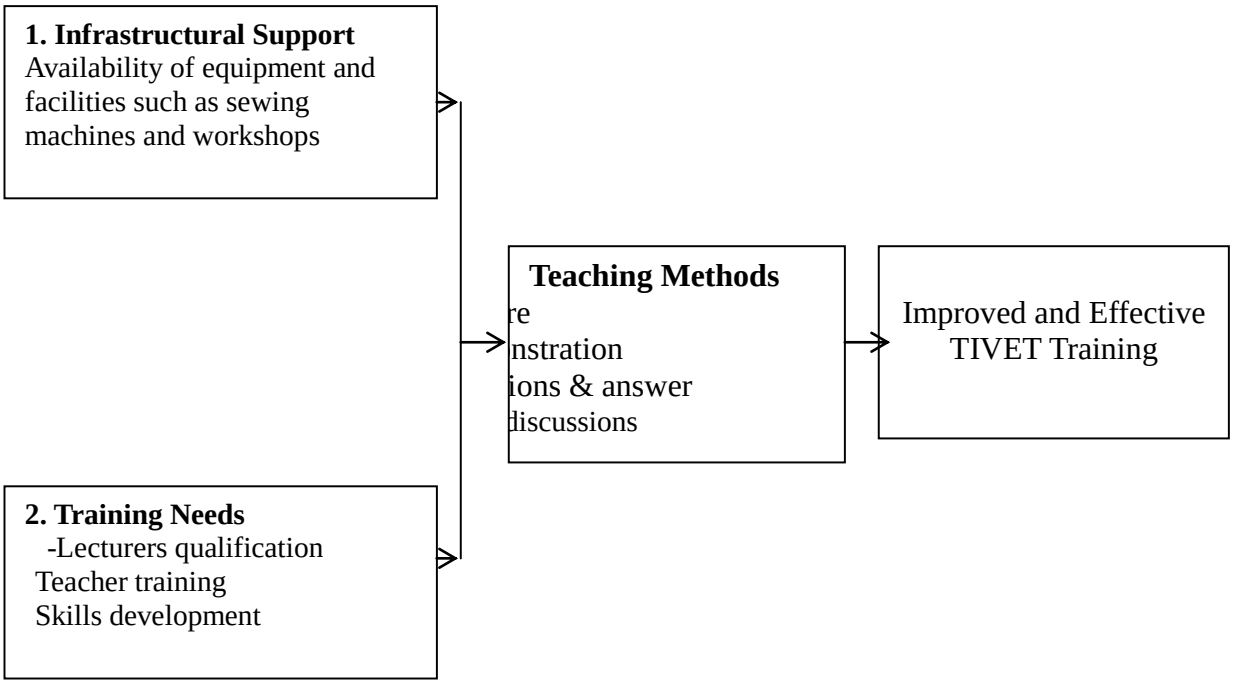

Figure 1.1 Conceptual Framework of the Study

In the conceptual framework presented in Figure 1.1, the independent variables such as the availability of infrastructural support includes facilities such as workshops and machines is perceived to affect the effectiveness of training in TIVET institution. Availability of machines and workshops allows for practical lessons which are very important in ensuring effective training. Teacher qualification in terms skills and content knowledge also affects the effectiveness of the training. This also entails the teaching methods used by teachers. These variables affect the effectiveness of TIVET training as it influences the availability and use of teaching and learning resources which affects the effectiveness of the institutions in terms of training.

1.10 Definition of Operational Terms in the Study

Clothing and textile industry: A wide variety of firms involved in yarn spinning, fabric manufacturing and garment manufacturing which vary in terms of size and age, technology, products, export performance, and the export markets they participate in.

Effective training: This is a state where the knowledge and information passed to students in the training institutions is applied in the relevant field for the benefit of the trainee (source of employment) thus contributing to the general economic development.

Equipment: These are machines and tools used in the teaching and learning of clothing and textile course in technical institutions.

Infrastructural support: Workshop equipment furnished with workstation tables and the tools used in a learning setup.

Physical facilities: These are learning facilities in the Technical Institutions such as workshops, laboratories and classrooms.

Professional qualification: This is academic requirement of the trainers in terms of training development in their lines of profession.

Teaching methods: These are teaching strategies used to deliver clothing and textile curriculum in Technical Institutions.

TIVET: Technical Industrial Vocational and Entrepreneurship Training aimed at equipping learners with necessary skills for both salaried and self-employment. It is a

quality skills development programme that enables learners to engage in productive employment, either directly or indirectly in the informal sector.

Trainer attribute: These are the characteristics and competencies of a trainer

Training: The process through which knowledge or information on clothing and textile is passed from trainers to trainees in Technical Institutions in Kenya.

CHAPTER TWO: LITERATURE REVIEW

2.0. Introduction

This chapter reviews literature on the global overview of the clothing and textile industry with special attention to Africa and Kenya.

2.1. Global Overview of the Clothing and Textile Industry

In 2001, Sub-Saharan African (SSA) countries accounted for less than one per cent of global exports of clothing and textiles. In terms of production, the SSA share of global market rose from 1% to 1.2% in the 1990s. The northern African countries increased their share of global exports of clothing and textiles from 1.2% to 1.3% over the same period (Economic Intelligence Unit, 2004). The production and export of clothing and textiles is concentrated in a small number of SSA countries, primarily Kenya, Lesotho, Mauritius, Madagascar and South Africa. Production in Swaziland and Namibia is increasing, but mainly due to African Growth Opportunity Act (AGOA) (Economic Intelligence Unit, 2004). Exports from the five largest SSA suppliers were worth US$ 3 billion – negligible compared to the US's US$53 billion imports from China. Restrictive quotas are causing buyers and producers to look for non-quota constrained countries to supply the EU and US. Many smaller and less developed countries such as those in SSA have been provided with valuable opportunities as they are shielded from open competition (Minor et al, 2002).

According to Kenya Education Sector Support Programme, {KESSP} (2005), some of the objectives of TIVET in Kenya are to:

a) Provide increased training opportunities for school leavers that will enable them to be self- supporting.
b) Produce skilled artisans, craftsmen, technicians and technologists for both formal and informal sector.
c) Review the current training delivery mechanisms to include mandatory on the job training to enhance quality and relevance of training as part of the academic programmes.
d) To involve stakeholders from the industry and professional organizations in the development of key training programmes.

There is a need to develop skills in the industry. There are few new skilled people entering the industry to replace those who leave, and very little skills development taking place within firms. According to TIVET Strategy (2007), without appropriately skilled employees, technical staff and management, the industry will not be able to become internationally competitive According to MOEST (2007), underpinning this negative cycle is the perception of clothing and textiles as 'sunset' industries and hence one to be avoided by bright youngsters and recent graduates. Longer term good prospects are required to attract the kind of people that are needed for the industry. In Kenya, the clothing and textile industry has experienced a decline in growth in the last decade (GoK, 2005) and this limits places for industrial placement for students in TIVET Technical Institutions. Market liberalization in the early 1990s is blamed for the severe decline of textile and clothing industries (McCormick et al., 2001). Apparently it led to enormous increases in imports of textile products and garments which pushed local producers out of the market. Other factors that led to the collapse of once a lucrative industry include failure of the country's cotton sub=sector and increasing use of synthetic fibers, low skilled labour,

outdated and underutilized machines and poor marketing strategies (GoK, 2005). According to MOEST (2009), technical education has for a long time been characterized by obsolete equipment, dilapidated structures and lack of industrial focus. In addition, according to GoK (2005), there is a serious need to develop skills in the clothing and textiles industries. According to MOEST (2007), there appears to be few new skilled people entering the industry and very little skills development taking place within firms and Technical Training Institutions and Institute of Technology.

2.2 The Clothing and Textile Industry in Kenya

Kenya's textile and clothing sectors comprise of a wide variety of firms in terms of size and age, technology, products, export performance and the export markets they participate in. While formal employment in the industries grew from 18,429 workers in 1976 to 32,425 by 1997, most of the growth occurred in the earlier years. The share of the two industries in total wage employment in the manufacturing sector declined from the 18.6% in 1985 to 14.7% in 1997 (McCormick et al., 2002).

Market liberalization in the early 1990s is blamed for the decline of textile and clothing industries (McCormick et al., 2002). It led to flooding of imports of textile products and garments which pushed local producers out off the market. Other factors that led to the sinking of the country's cotton sector are: the increasing use of synthetic fibers and a worsening operating environment in terms of lack of technological advancement, and high operating costs among others (Coughlin, 1991). The education and training systems (primary, secondary and tertiary) must entrench creative and critical thinking as a standard way of learning. There is need to dedicate

specific institutions to support innovation in critical manufacturing sub-sectors if a country has to attain and sustain industrialized status. Republic of Kenya (2012).

2.3 Technical Training for the Clothing and Textile Industry in Kenya

According to the Republic of Kenya (2006), it is estimated that 59 per cent of the population was below 20 years of age. According to MOEST (2007), there was a mismatch between demand and supply in the labour market. It was found that the majority of the youth lack vocational and technical skills that are required in the labour market, placing them at a great disadvantage. To improve the physical and human capacity in the management of the clothing and textile industry in Kenya, there is need for an effective TIVET training system.

Technical and Vocational Education and Training according to GoK (2005) is expected to play two crucial roles in the country's national, social and economic development. The first role is to provide training opportunities and career advancement avenues for the increased school leavers. The second role is to provide skilled manpower that is needed at all levels of the economy. The skills so developed should lead to self-reliance in the absence of salaried employment and enhance Kenya's industrialization process.

Makhoa (2006), Lubben and Campbell (2002) have carried out various study on teaching and learning of Clothing and textile in both secondary and tersely colleges, they observed that the teaching resources and facilities were scarce, and in most cases absent. In her study of effects of selected factors on students' performance in Clothing and Textile, she identified four problems, one of which related to facilities. She observed that there were inadequate number of sewing machines and limited

textbooks both for the students" and lecturers" use. The inadequacy of these facilities could in a way affect performance of students as they lacked related practice. Most of the studies in clothing and textile area have not related the absence of physical facilities and resources to effective TIVET Training. This study is therefore timely as analyzing the infrastructural support and trainer attributes in TIVET institutions.

2.3.1 Technical, Industrial, Vocational and Entrepreneurship Training system

TIVET services in skill development have been supported by various agencies, but the policy is complicated and fragmented. First of all, there are two streams of vocational training ladders administered by different ministries. These are; the Artsan programmes and Jua kali training. Kenya's current education system is 8-4-4 system of education in 1985, introduced a new curriculum, which merged all the subjects previously offered separately under a common umbrella of Home Science (Sigot, 1987). This brought with it problems which affected the teaching and learning of Home Science, Clothing and Textile included (Munene, 1992). These include lack of facilities, lack of qualified personnel, and teaching/ learning recourses and large classes especially large Technical Education Programme which was based on the 8-4-4 system. Though the human resource requirement for industrial development should encompass all the critical points along industrial activities, workforce development must be emphasized.

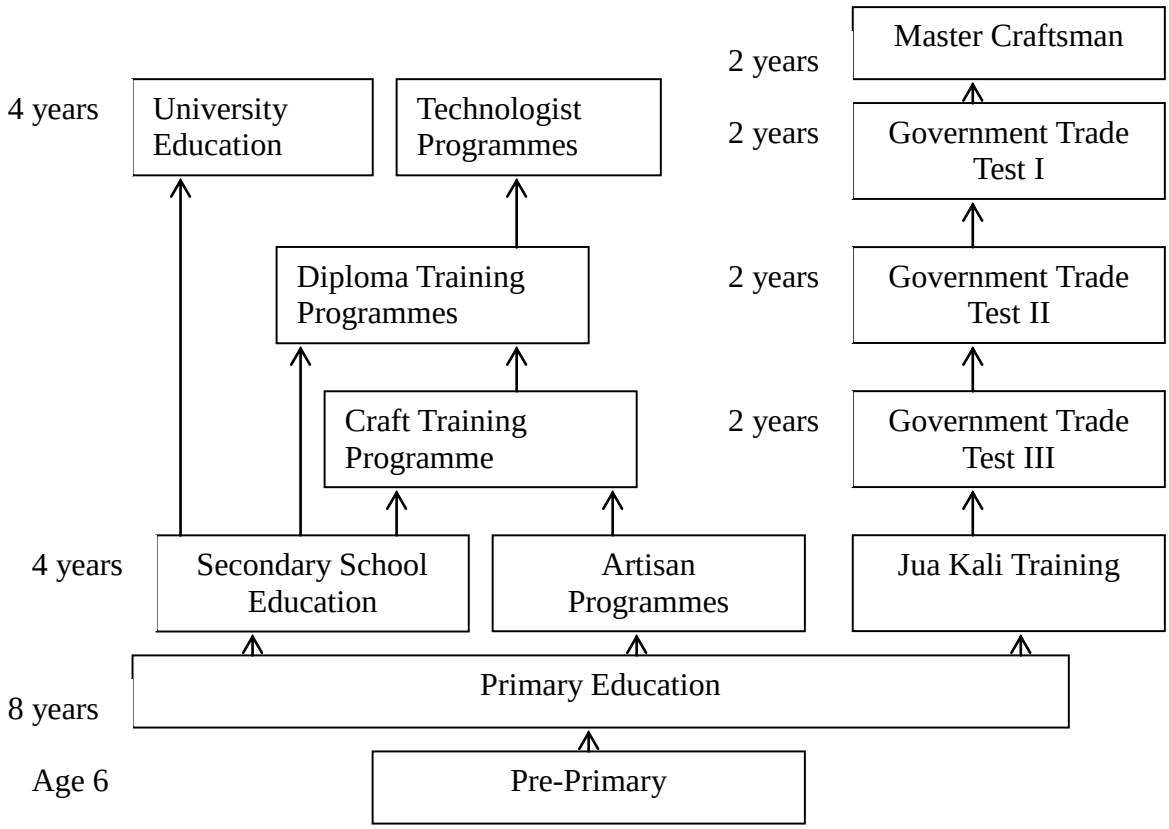

Figure 2.1 Current TIVET Systems in Kenya. Source: UNDP (2005) and GOK (2005). Report on Status of Jua Kali Sheds and Youth Polytechnics in Kenya.

The first level in the current TIVET's system as indicated above is for those who are new graduates from primary education. Post-secondary education can lead to higher diploma level through craft training or directly to Diploma training. The TEP curriculum is developed by the Kenya Institute of Education (KIE) and examinations are administered by Kenya National Examinations Council (KNEC). This curriculum is administered by the other relevant ministries. As the post secondary technical education level, three kinds of public vocational training schools exist. These are; Institutes of Technology (ITs) and Technical Training Institutes (TTIs) which offer craft and diploma courses, National Polytechnics, which offer diploma, Higher diploma courses (GOK, 2005).

The second level of the TIVET diagram, aims at skills-upgrading for those who are already in the industries. The certification under the government is Trade Tests system, developed and administered by the Ministry of Labour and Human Resource Development (MLHRD.) The National Industrial Training Council (NITC) functions as a co-ordinating body under the Industrial Training Act (Cap 237). NITC is a tripartite body, with the Government represented by the Directorate of Industrial Training (DIT), employers represented by the Federation of Kenya Employers (FKE) and employees represented by the Central Organization of Trade Unions (COTU). The Industrial Training Levy scheme is available, with its role being to source to finances for technical training. This system pools together funds collected from enterprises and are charged per employee. When training needs arise, enterprises apply to the Industrial Training Levy Scheme for training funds, buying material like log books and payment of their upkeep when clothing and textile students go for their attachment in textile industries (Sessional Paper No.1 of 2005).

2.3.2 MOEST-led policy reform

Important policy guidelines for all education and training sectors are contained in the Sessional Paper No.1 of 2005, "Policy Framework for Education, Training and Research" and action plan, Kenya Education Sector Support Programme {KESSP} 2005. The two papers recognize education as a key contributor to industrial development.

In connection with TIVET, the Sessional paper (2005) highlights the constraints of the sector such as poor physical and human capacity in management, inflexibility and irrelevance of the curricula for industry, limited interaction with private sector and current fragmented government administration. It calls for the development of a

National Skills Training Strategy and the establishment of the National TIVET Authority. The paper also suggested administrative and substantive service reforms that include encouraging private sector investment, review of current delivery mechanisms, labour market survey and skills needs assessment, audit of TIVET institutions, review of the curriculum, and development of adequate infrastructure. One of the highlights of the policy guideline is about improving the coordination of relevant stakeholders and administrative functions, and an envisaged flexible and streamlined education structure. Under this structure, entry and re-entry into higher level education can be more flexible.

Ministry of Labour and Human Resource Development (2005) identified TIVET reform to fight ineffectiveness and inefficiency of the system. The Industrial Training Act enacted in 1960 sought to resolve this. In order to enhance the effectiveness of TIVET function, it was suggested that the national industrial training authority and the Department of Industrial Training to be a semi-autonomous government agency (SAGA). This will help training institutions to serve themselves in terms of finances. This will take care of building workshops, purchasing machines and material that will be used in clothing and textile workshops. Further, this would curb the problem of bureaucratic government procurement procedure.

2.3.3 Education and Training:

Under education and training, Kenya will provide a globally competitive and quality education, training and research. Kenya aims to be a regional centre of research and development in new technologies. This will be achieved through: (i) integrating early childhood education into primary education; (ii) reforming secondary school

curricula: (iii) modernizing teacher training; (iv) strengthening partnerships with the private sector; (v) developing key programmes for learners with special needs, (vi) rejuvenating ongoing adult training programmes; (vii) revising the curriculum for university and technical institutes to include more science and technology; and (viii) in partnership with the private sector, the Government will also increase funding to enable all these institutions to support activities envisaged under the economic pillar (Republic of Kenya, 2012).

2.3.4 Private sector players undertaking TIVET Programmes

The increasing demand for technical education has attracted private institutions who have entered the market and are providing trainings and offering certificates in various areas (MOEST, 2007). Many donor-supported or self-financed NGOs for example Christ the King training Institute being sponsored by Christ the King Catholic church and Centre of Hope Nakuru Counselling and training Institute have been providing training in clothing and textile. On the other hand, institutions that offer courses such as business management, secretarial skills and IT related skills are emerging, particularly in urban areas. According to MOEST (2007) these institutes often use foreign curricula and provide foreign certificates rather than use the Kenya National Examinations Council (KNEC), from the Ministry of Education Science and Technology.

In the absence of official guidelines on skill offered, it is not clear whether the quality and subjects provided by these institutions are adequate and fit for the labour market, demand for technical education in clothing and textile course should in line with the market demand in skills developed. Basing TIVET institutions on the economy of the nation, this research therefore evaluated the challenges to the

Training Institutions in terms of the professional qualification of the trainers, the status of physical facilities and the teaching methods used in the delivery of curriculum in the Training Institutions in Kenya.

2.4 Status of Physical Facilities and Equipment in the Technical Institutions

The objective of TIVET is to provide and promote life-long education and training for self-reliance. According to GOK (2005), the challenges facing training institutions include inadequate facilities and capacities to cater for graduates of primary and secondary education wishing to undertake TIVET programmes. Managing TIVET under various government departments has also posed a challenge to the industrial sector leading to disparities in the training standards. The lack of effective co-ordination of training policies and the disproportionate production of skilled personnel across the entire economy resulted in mismanagement of scarce resources, duplication of efforts, conflict of jurisdiction, under-utilization of available training facilities, wasteful and unnecessary competition, costly and irrelevant training programmes (GOK, 2005). The immediate task is therefore, to undertake the development of a National Skills Training Strategy and to implement the necessary reforms, along with a legislative framework for a comprehensive TIVET system.

In the study of Makhoa (2006) on effective of selected factors on students' performance in clothing and textile, she identified that the success of any education system depends to a large extent on availability, adequacy and quality teaching/ learning resources and physical facilities. Teaching aids are essential requirements for successful teaching. Material resources are important in curriculum

implementation of the syllabus if they are effectively put into use (KIE, 2006). Clothing and Textile being a practical oriented subject, training facilities must be in place for effective TIVET programme. According to Nyerere (2009), some of the challenges still facing TIVET include inadequate facilities and capacities to cater for the large numbers of those who complete primary and secondary education and wish to undertake TIVET.

One of the issues for state-run TIVET institutes is that they do not have adequate mechanisms of accumulative capital, while Government financing has been limited. However, it is also not clear whether there is any practice of planned renewal of the facilities. Some TIVET technical institutions for example like Rift Valley Institute of science and technology that offer clothing and textile course, were started with donor funds in form of finance package and equipment (Workshops, Machines, cutting tables and body forms) find it hard to cope with depreciation due to lack of continuous investment. This has led to the dis-link between the technology in the industry and the technology used in the Training Institutions. Students are normally challenged when they are attached in the clothing and textile industries. There is therefore a need for collaboration of the technology used in the training institutions and those in the industries where the skills learnt are required (Nyerere, 2009).

Accessibility and availability of services need to be addressed in terms of the physical availability of resources and actual services that are in demand. Another point for consideration is inefficiency to provide easy access to services. The Industrial Training Levy Scheme is expected to work as a financial resource pooling facility that can be accessed to subsidize training for enterprises. However, due to inefficiency, it only works as a burden in form of tax for enterprises. It is mandatory

for all enterprises to pay the Industrial Training Levy. It is charged per employee and the amount is designated per industry. The problems with the Training Levy are two-fold. First, its management requires to be modernized. The disbursement process is very slow and cumbersome (Session Paper No.1 of 2005). It requires the approval of NITC to get reimbursement before training starts, and this process takes too long to meet the enterprises' training needs. On the other hand, while levy collection amounts are declining with smaller contributions from eligible enterprises, claims are becoming larger from some enterprises (World Bank, 2005). Secondly, the areas that can be financed by the Levy do not necessarily cover the newly emerging and more cross-cutting ones such as business management and information technology.

KESSP (2005) noted other constraints to the success of TIVET programs, as inflexibility and irrelevance of the curriculum, mismatch between the skills learned and the skills demanded by industries, inadequate method of teaching in place, inadequate physical facilities for training, coupled with lack of sufficient modern equipment, expensive training materials and textbooks, and low participation of private sector in curriculum design and development.

2.5 Professional Qualification of Trainers in Technical Institutions

When considering growth in technology, the development of human capital is paramount (Fajonyomi, 2007). This view is in line with Ogbazi (1987) who noted that problem of industrial development in Nigeria is that of inadequacy of sufficiently trained human resources and this has been a major constraint on the rate of technological and economic development of the country. The issue of professionalism in teaching has been on course for quite some decades. Scholars

argued the necessity of skilled teachers for effective learning. Ngada in Fajonyomi (2007) emphasized that the success or failure of any educational programme rests majorly on the adequate availability of qualified (professional), competent and dedicated teachers. Seweje and Jegede (2005) noted that the ability of a teacher to teach is not derived only from one's academic background but it is based upon outstanding pedagogical skill acquired.

The realization of the national growth in technology as highlighted in the Nigeria national policy on education hinges largely on the quality of the teachers. This view is supported by Nkwodimah's (2003) submission that teacher's quality will inevitably be seen in the citizens tomorrow. Ngada (2008) while remarking on teachers' quality observed that over 80% of respondents viewed teachers as carriers of weaknesses: These weaknesses include, among others, inadequate exposure to teaching practice, poor classroom management and control, shallow subject-matter and lack of professionalism. According to Ajayi (2009) professional qualities of a teacher relate to mastery of the subject matter, sense of organization, ability to clarify ideas, ability to motivate students, good imagination, ability to involve the students in meaningful activities throughout the period of teaching, management of the details of learning and frequent monitoring of students' progress through variety of tests. In technical institutions set up, trainers instructional ability and content knowledge in clothing and textile course is therefore perceived to have an impact of students' understanding of the course.

Although teachers play an important role in teaching professional education or training seems to impact performance. Generally, it is claimed that a trained teacher knows well how to teach effectively. Okuni (1997) defined the importance of teacher training as, "The schools could not succeed without trained teachers". It is very

common fact, if a trained teacher teaches the students; the performance of the students will be better because in the process of education the teacher is considered the most crucial element. There is a direct relationship between the qualification of the teacher and the performance of the students besides other factors. According to Okuni (2000) researches have been done to prove the relationship between the student performance and teachers qualifications and quoted one example from research "Over the 15 year's interest in students performance and teacher qualification has intensified among education policy makers and teacher. One of the aspects of TIVET service provision is the human resource needed to cope with the dynamics of demand. The speed of technology advancement and the necessary human resources and skills required is fast and dramatic. The human resource development strategy, therefore, should take into account this diversity and dynamics. Although public institutions can capture the changes in demand, it would not be easy to cope with it promptly since they would need to retain instructors and renew the facilities. In the early 1990s, due to the following factors; mismanagement, lack of investment and availability of secondhand clothing, the textile in Kenya collapsed. This affected even graduates of clothing and textile from institutions, because they could not understand how to respond to the competition by mitumba or Chinese apparel (Nyerere, 2009).

Whereas a large portion of labour force with basic education is entering the job market, many job seekers go into the informal sector because of lack of job opportunities that can provide tangible applied skills and knowledge result in a vicious cycle of non-availability of skilled labour. On the other hand, even if applied skills and knowledge are provided through public institutions, job opportunities for those who train are very limited. According to MOEST (2007), generally, despite

obsoleteness of facilities, essential skills and knowledge are provided sufficiently by public TIVET institutions. However, in order to drive industrial development, additional applied skills and knowledge are necessary. Applied technology such as production technology, design technology and product development techniques cannot be taught probably due to lack of experienced instructor and technological facilities.

Eshiwani (1983) found lecturer characteristics to be among those factors which influenced academic success. The characteristics that ranked highest were lecturer qualification. The lecturer must possess the knowledge of the subject matter, which help him/her to work with confidence to high students academic achievements (Moser and Kalton (1993). Lubben and Campbell (2002) observed that majority of clothing and textile lecturers in high school and technical institutions were not qualified to teach and prepare students for examinations in clothing and textiles courses under TIVET programme, therefore pointing to the need for re-training. Most lecturers expressed lack of interest, but also lack of competence (Kanga, 1994; Sigot 1987). Muthoka (1994) observed that a lecturer who is interested in his or her subject was more likely to yield better results compared to a well trained, qualified but disinterested one.

Mbithe (1985) found that one of the courses of dissatisfaction in learning home economics at Kenyatta University was that some causes were not well taught. Although the study did not focus effectiveness of technical education in TIVET institutions, it showed that adequate instruction leads to incompetence later on when the trainee teacher starts to teach. Male (1988) pointed out that 62.5% of home science teachers in primary schools composed of SI's and PI's and that this explained

why most of the children learning in Nairobi Primary schools passed in their national primary examinations well enough to proceed to secondary schools, tertiary colleges and university. Kathuri (1993) also noted that teacher-training programes lacked details and were therefore inadequate as they affected teachers negatively in their teaching job. Such inadequacies as earlier mentioned are likely to affect the performance of students in discipline. According Atkinson (2001), Irumbi (1990) and Oenga (1995) observed that teacher training, academic qualification and experiences were possible causes of variation in effective academic performance among pupils and students performance. Mwangi (2008) observed that one of the qualities of a good lecturer was not sufficient knowledge of the subject matter content but the qualifications. She also noted that students struggle when they see their lecturer as someone who helps them in understanding things both theoretically and practically, which seem difficult. KIE report (1990), found that students thought of some subjects as being difficult because their lecturers were unprepared and not competent in the subject. Kathuri (1993) noted that student performance skills development was positively and significantly correlated to the quality of lecturers and that there was a distinct relationship between quality of staff in a particular institution and the performance in skill development in that institution. This study established that if members of teaching staff in the selected institutions were adequately trained to tackle professionally industrial and technical training curriculum in clothing and textile**.**

2.5.1 Implications for Developing the Next Generation of Academics

According to Luyanda Dube1,Patrick Ngulube2(2013)) in the first decade since democracy (1994–2004) most professors and associate professors in South African

universities, who constitute most highly qualified, experienced and productive researchers and are experts in their chosen disciplines, are older workers.

According to Wisdom J. Tettey (2010 he took various dimensions of the current staff composition of the institutions studied and explore their implications for growing the next generation of academics within the African academy. He also examined the extent to which these dimensions make it imperative that the development of the next generation of African academics becomes an urgent priority for all stakeholders.

The purpose is not only to ascertain the extent of the problem in these institutions, but also to examine their ability to bring forth the next generation of academics as a way to reverse the decline. The report also offers a concrete context for discussions about the regeneration of academic staff capacity and, by extension, the intellectual environment that will allow these institutions to meet their mandates with the requisite levels of quality.

2.5.2 An Ageing Professoriate and the Need for Replenishment

According to Wisdom J. Tettey (2010) the urgency of the need for initiatives to build the next generation of academics in African universities is made clear by the fact that the current crop is ageing very fast, with no commensurate expansion in the numbers of young scholars entering the profession. Only 20% of the staff of Obafemi Awolowo University (OAU) in 2006/2007 was under 40 years of age, compared to 39% over 50 years of age. In view of the fact that the mandatory retirement age is 65, these figures give cause for concern about the future of the academy. The fact that around 11% of staff at OAU, in the two years for which data are available, was past the retirement age amplifies the extent of the problem. This study established that if

trainer attributes were met in the selected institutions to tackle professionally industrial and technical training curriculum in clothing and textile course**.**

2.6 Teaching Methods in Technical Institutions

An effective teacher is judged ultimately in terms of imparting knowledge and value that student can comprehend. Bennaars, Otieno and Boisvert (1994) asserted that for one to be a good teacher, one has to adopt an acceptable style of teaching. When given a set of behavioural objectives, the teacher must provide an environment in which the objectives may be best achieved, and select the teaching methods suited to the subject matter and type of learning involved (Walking, 2001). According to Sigot (1987) the success of the curriculum depends on the selection of appropriate teaching strategies and learning activities. There are a variety of methods and techniques that the \clothing and textile teacher can employ during teaching in order to make students understand the lesson. Different teaching methods and technique will take care of individual differences in students (Munene, 1992). These include lecture, demonstration, group discussion, question and answer, practical and assignments.

2.6.1 The Lecture Method

Modern educator considers the lecture method outdated. It is a process of delivering knowledge to student verbally, using a pre-organised outline (Bennaars et. al., 2006). According to Walking (2001) the lecture method is an economical means of transmitting factual information to a large audience although there is no guarantee that effective learning will take place, thus a one-way communication approach, where the teacher talks while the student participation is inhibited as much as possible. It does not encourage creativity and students become passive recipients'

ideas. Clothing and textile course encourages students to be creative, innovative and self-employment.

2.6.2 The Demonstration Method

A demonstration method is a practical display or exhibition of a process and serves to show or point out clearly the fundamental principles or actions involved. Teaching by demonstration is a useful tool available to the instructor and plays an import part in teaching skills (Walking, 1994). Contrary to this, Sigot (1987), observed that there was need for less emphasis on teacher centred skills such as the traditional demonstration, and more emphasis placed on skill of enquiry, discovery method, self- directed learning, Creativity and initiative on the part of learner. Generally, lecturers use demonstrations alongside other methods of teaching. Demonstration train students to observe things, it stimulates thinking and the formation of concepts and generalizations and it arouses the students interest greatly by the equipment and material used (Bennars et, al,1994).

2.6.3 The question and answer method

The art of questioning is as old as teaching. Questions asked in the class room situation will vary with the purpose of the lesson. Category of students and their level of understanding (Bennars et. al, 1994). They go on to say that the lazy teachers avoid asking probing questions and they do not encourage their pupils to ask any either. This may be partly due to the system of education, which gives much importance to national examinations. Students are encouraged to cram facts and information which they will be able to reproduce during the final exam in order to pass. KNEC report (1992) stresses this further when it says that teachers should

strive to develop other mental abilities such as application, analysis and evaluation in their students and that emphasis should not be laid only on recall. Clothing and textile course students' participation is very important. Make student to be active, creative and innovative

2.6.4 The practical method

A practice session should follow a demonstration immediately in order to reinforce procedures learners learn best by doing and there is no substitute for practice in the acquisition of skills (Walking, 2001). According to Ndirangu, Mutema, Naweya, (2000) concur with Walking (2001) that students learn when they are actively involved and that they must be allowed to practice after the teachers' demonstration.

According to KNEC (1992) practical experience clothing and textile makes learning more meaningful and the concepts and ideas learnt not easy to forget. As KNEC continued to observe there was an indication that the students lacked the knowledge and practice on basic processes used in clothing construction as stipulated in the syllabus, an indication that topics were tackled theoretically? There was therefore need to find out the teaching methods used by lecturers for affective technical education in Clothing and Textiles Course. The practical will be applied in the industry and self-reliance with the current technology.

2.6.5 Discussion Method

Discussion is considered as an organized procedure to teach a specific section of a subject. It is a pre-planned method of teaching (Bennars et.al, 1994). Discussion in

the classroom situation can be used as an effective method of teaching and occur at different times.

A lecturer must know to handle it for promoting learning (Walking, 1994). It requires skilled use by the lecturer to avoid time wasting and rowdiness that may result if it is poorly planned and implemented (Gronewegen, 1993). It is appropriate to some aspects of a subject and not others. It is mostly used in social subjects like history, literature, geography and economics. It is indeed one of the best methods of improving the skills involved in analyzing and information, students learn to accumulate facts and information. Students learn to accumulate facts, which help them eventually to deal with the social and economic problems of the society (Bennars et al., 1994).

Student should be more actively involved in the discussion than the lecturer who initiates it. In this case, the lecturer guides the students. Many discussions do not involve lecturer at all though they may be asked for their expert opinion (Bennars et al., 1994). According to Groenewegen (1993) discussion facilitates the development of critical skills this method helps students to attain levels of cognition and effective domains. The study sought to find out if these methods are applied relevantly in the teaching of clothing and textiles course so as evaluate its effectiveness in technical education being an organized procedure to teach a specific section of a subject. In clothing and textile, discussion method is also considered as one of the effective methods of curriculum delivery.

2.6.6 Assignments

Assignments can be referred to work outside the lesson hours. These assignments can have several specific functions, but in general the point is that time outside the lesson hours is used for further learning (Groenewegen, 1993). Sometimes the assignments are simply a continuation of an in class exercise. There may be a skill, which has been presented theoretically and perhaps has been practiced once, but in the opinion of the lecturers requires further practice. In such case, the lecturer will simply add.

According to Walking, (1994), lecturer may feel that the content of a lesson could not be covered adequately in on lesson, and in order not to put the students at a disadvantage she/he assigns some further reading, usually from the textbook.

According to Flanders, N. A. (1970), Sometimes the syllabus has been predicted so much content that the lecturer cannot afford to have each topic covered by the same lesson. He/she may decide to turn one or more topics into out of class assignments. This apply and work very well with Clothing and textile, student can be give the practical and design work to do on their own. This improves their technical skill development.

2.7. Using a modern factory arrangement as a bench mark for a modern studio in a learning environment

The successful design of learning activities in a design programme requires integration of workplace relevance and skills. The sewing and design studios therefore should reflect industries infrastructure very closely. A modern fashion industry’s set up consist of the following departments equipped with machinery and

technology to provide economies of scale, efficacy, quality and quick response to the market (Mastamet-Mason, 2008).

2.7.1. Design department

Design department should be equipped with highly skilled designers, Computer Aided Design computers with software's such as Kaledo, Spectra, Gerber, Photoshop and Illustrator among others. This means that the designers should be able to operate these technologies and be able to use them creatively to come up with original designs that can sell in the market place Mastamet-Mason, (2008) in the same context a fashion design programme should be able to equip students with design skills that can be enhanced during Industrial placement and after finding jobs. If fashion design programme lacks a computer Aided Design studio, it means that students graduating from such institution will not be able to cope with the industry's needs. As a tutor in a fashion and textiles institution, the researcher has observed that there are no Computer Aided laboratories equipped with the relevant software and there are no qualified lecturers to teach it (Kamau, 2012).

2.7.2 Cutting room department

A cutting room section in a factory should be equipped with pattern design system, Marker making systems and human capital highly skilled in both manual and digital pattern design. A fashion design programme should provide at least basic skills both practical and manual that can enable students to handle work within the cutting room department of a fashion industry (Mastamet-Mason, 2008). This means that an institution offering fashion design course should be equipped with at least 50% skills and equipment required in a cutting room department within the fashion industry. As

seen in most technical institutions, the cutting setting and training is not adequate to address the cutting room department of a modern fashion/clothing industry. This therefore highlights that the training institutions are not prepared enough to meet the demand of the industry (Kamau, 2012).

2.7.3 Sewing room

A sewing room of a modern factory should be equipped with quality sewing machines enough to the number of student and other extra machine in case the number increases**.** Fashion design studio comprises 3 separate sewing lines with 17 fully automated sewing machines with a production rate of 1500 garment of standard T-shirts. It features the latest technologies of chain, over lock and lock stitching auto trimming sewing systems. The team in this department, which consists of 200 professional members, aims to modernize and develop the sewing stage. For each order, the sewing machines are set according to the kind of fabric to guarantee the maximum production rate by means of the most appropriate and modern sewing manufacturing techniques. All the garments, after the production stage, are transferred to the "checking section" to separate faulty from fine garments in that we limit the error margin from 3.5% up to 1% in the finished goods. It needs large surface to work on, chairs enough for lecturers and students. It is worth noting that most technical institutions have a good number of industrial sewing machines with additional special machines such as over lockers, blind hemmers and buttonholers. However, the machines are usually shared among 3 to 4 students and this limits the learning ability. The arrangement of a sewing room in a factory may not be a true reflection of a sewing room in a learning environment because of space and the number of machines. The theories taught in clothing factory management as well as

sewing room systems are not translated into a practical working environment thereby limiting the skills attained by the students. Workstation should be efficient and lay out so that it is as easy as possible to get the work done with the fewest disruption to the flow of work, Olabi. Company. (2000). The researcher has observed that there were no set up sewing departments.

7.2.4. Finishing and inspection department

A finishing and inspection department is equipped to do Finishing and inspection are the last two process major operation in the manufacture of garments before they are bagged or box and delivered to the finished goods warehouse. These two processes are vital in the production of sample garments because finishing insures that the garment is correctly completed in every detail, and inspection verifies that it conform to the relevant quality standard. In addition, this is the stage when the designer makes the final assessment of whether the sample garments has achieved its planned design objectives and can be approved. During the finishing and inspections, of samples, nothing which concerns the garment technically can be left to chance.

As the name implies, finishing covers all the operation required to complete a garment. For most garments this process starts after top pressing. The details involved in finishing very according to garment type but in principle described here is finishing and inspection are the last two process major operation in the manufacture of garments before they are bagged or box and delivered to the finished goods warehouse. These two processes are vital in the production of sample garments because finishing insures that the garment is correctly completed in every detail, and inspection verifies that it conform to the relevant quality standard. In addition, this is the stage when the designer makes the final assessment of whether

the sample garments has achieved its planned design objectives and can be approved. During the finishing and inspections, of samples, nothing which concerns the garment technically can be left to chance. As the name implies, finishing covers all the operation required to complete a garment. For most garments this process starts after top pressing. The details involved in finishing very according to garment type but in principle described here are two process operations in the garments training before they are bagged or box and delivered to the finished goods warehouse. These two processes are vital in the production of garments because finishing insures that the garment is correctly completed in every detail, and inspection verifies that it conform to the relevant quality standard. In addition, this is the stage when the designer makes the final assessment of whether the garments has achieved its planned design objectives and can be approved. During the finishing and inspections, of garment, nothing which concerns the garment technically can be left to chance. As the name implies, finishing covers all the operation required to complete a garment. For most garments this process starts after top pressing. The details involved in finishing very according to garment type but in principle described here, student are supposed to be trained on these skills which are lacking and make the student unable to cope with the current technology (Aamir sheikh, &.Raichurkar, 2001).

The pressing equipment and methods is part of finishing and various types of pressing equipment are used widely in the garment industry. Some of the most common ones are.

-Electric Steam Iron- This is the most common type of iron use now a day. The iron is heated by electric element, control by a thermostat, and supplied with steam, either from the factories main stream supply, or from a small boiler adjacent to the pressing

unit. The steam function of the iron is activated by the touch of a button, when a powerful jet of dry steam is produced.

-Steam Irons- These are used where higher pressing quality is desired. The pressing is done by a powerful jet of steam without any electrical heating element. The consumption of steam is more but this kind of pressing eliminates chance of any shine mark on the fabric which may come during pressing.

-Pressing tables- There is a range of pressing tables available for ironing. In a situation a variety of parts and shapes of garments are has to be pressed. A simple pressing table similar to a domestic ironing board is used. Modern tables have a supply of vacuum to hold a garment in position and dry and set it after ironing. The flat table can be fitted with swivel arms, which presents bucks of varied shapes to allow the laying of sleeves, shoulders, and collar without distortion or the danger of creasing. Each of these has a vacuum facility. Alternatively, the basic table may consist of a very large flats area, or a smaller curved surface, each with additional section to be sewing into position if required. A blowing function is also available of some these pressing surfaces which gives billowing surface on which to press. This enables some difficult materials, such as thin, hard rainwear fabrics, to be pressed with less risk of seam impression showing.

All these process are supposed to be used for training purposes so that the trainees are equipped with the relevant skill. Aamir, s. A bhijit p. Rachurkan, p (2012) (A summary of modern studio's arrangements is shown in Appendix VIII).

2.8 Summary and Gaps Identified

According to TIVET strategy (2007), the TIVET system is currently managed through various legal statutes administered by several ministries which carry out TIVET training programmes. This has led to disparities in the provision of training programmes in terms of scope, content, duration, qualities and standards.

The infrastructure and equipment in most of the TIVET institutions are largely unable to cope with the current demand for skills training, and out of tune with modern technology (TIVET Strategy, 2007). This gives rise to a thriving market for unregistered private colleges, most of which offer sub-standard quality training of unknown programmes and qualifications (MOEST, 2007). This coupled with the fact that some teaching personnel do not possess the right skills, has led to a mismatch of the skills being imparted with the requirements of the industry. Most important is the lack of a recognised national TIVET Authority (MOEST, 2007). This would regulate standards within the industrial sector and make clear provisions to enable the training personnel to be re-trained and the existing facilities upgraded. According to TIVET Strategy (2007), new training equipment needs to be acquired, especially within the public training institutions. The method of teaching in place for the effectiveness mechanisms also need to be streamlined and strengthened.

2.9 Conclusion

This chapter has identified gaps in reviewed literature on global overview of the Clothing and Textile Industry in Kenya. The gaps are identified with purpose of strengthening the current study. Literature on technical, industrial, vocational and entrepreneurship training is presented and gaps noted. Ministry of education, science

and technology led policy reforms are examined in details and used to highlight strategic direction required in technical, industrial, vocational and entrepreneurship training. Furthermore, the study examines private sector players undertaking TIVET programmes in Kenya with a view of providing an understanding of infrastructural support. The challenges facing TIVET institutions in Kenya are inadequate equipped laboratories coupled with lack of competence by lecturers which affects the quality of the learners. This study therefore focus on clothing and textile courses in technical institutions and institutes of technology, service provision of public TIVET institutions, infrastructure, maintenance and financial viability and accessibility of services.

CHAPTER THREE: METHODOLOGY

3.0 Research Design

A cross-sectional survey research design was used for the study. Orodho (2009) states that survey research design is the most frequently used method for collecting information about people's attitudes, opinions, habits or any of the variety of education or social issues. This design was deemed appropriate since the study aimed at collecting and analysing data in order to describe and report on infrastructural support and trainer attributes in TIVET. The design involved collection of information from a cross section of respondents from Technical Training Institutes and Institutes of Technology that offer clothing and textile courses across the country. And the main advantage of the sampling technique that the researcher used was that it allowed only those perceived to have the desired characteristics to be sampled for the study.

3.1 Study Variables

In this study, the variables considered were lecturers' characteristics, students' demographic factors, physical facilities, equipment, teaching methods and training needs for teaching staff.

3.2 Location of the Study

The study was carried out in 18 TIVET institutions in Kenya comprised of 8 Technical Training Institutes and 10 Institutes of Technology that offered clothing and textile courses. This allowed the researcher to get a wide range of perspectives with regard to TIVET institutions (Appendix VII).

3.3 Target Population

The study population comprised of 37 TIVET institutions in Kenya. The study targeted 18 TIVET institutions comprised of technical institutes and institutes of technology offering courses in clothing and textile and those that were examined by KNEC. There were 8 technical institutes and 10 institutes of technology across the country offering clothing and textile courses. The study targeted the principals, deputy principals, lecturers, technicians and students in the target institutions. There were 36 principals and deputy principals, 148 lecturers, 18 technicians and 492 diploma students in the targeted institutions (242 first year and 250 second year students).

3.3.1 Inclusion Criteria

The study included only technical institutes and institutes of technology offering courses in clothing and textile courses. The institutions selected also offered the Kenya National Examinations Council (KNEC) examinations. From the staff sample only those in the ranks of principal, deputy principal, lecturers and technicians were included in the study. In the student sample, only second year students were selected to participate in the study because they were perceived to have the information required for the study. Second year students were targeted because they were perceived to be aware of the infrastructural support and trainer attributes in their institutions. They had been in the institutions for a longer period of time compared to the first year students.

3.3.2 Exclusion Criteria

The study excluded all other TIVET institutions offering other diploma courses and those that administered internal examinations only. First year students were excluded in the study because they were new in the institutions and were familiar with introductory courses only. Third year students were exempted from the study because they were in their final year preparing for exams and were not readily available to participate in the study.

3.4 Sampling Technique

The researcher used the multi-stage sampling procedure to select the study participants. According to Mugenda and Mugenda (2003) multi-stage sampling procedure is appropriate where sampling is done at different levels in a hierarchical order. The first stage involved identifying a national sample of all 37 TIVET institutions that offered diploma courses in Kenya. The second stage involved identifying 18 TIVET institutions that offered clothing and textile courses at diploma level. In the third stage, all the principals, deputy principals, lecturers and technicians in the 18 TIVET institutions were selected to participate in the study. The combined staff category comprised a total of 202 respondents (100%). In the fourth stage, all second year students taking clothing and textile courses were selected to participate in the study. The student sample comprised of a target of 250 (50.8%) only 200(40.6%) responded and 50(10.1) students did not submit their filled in questionnaires. This is shown in Table 3.1.

Table 3.1: Sampling frame

Description	Population (N)	Sample (n)	Actual sample size
TIVET Institution Offering Clothing & Textile Courses	18	18 (100%)	18 (100%)
Principals	18	18 (100%)	18 (100%)
Deputy Principals	18	18 (100%)	18 (100%)
Technicians	18	18 (100%)	18 (100%)
Lecturers	148	148 (100%)	148 (100%)
Students	492	250 (50.8%)	200 (40.7%)

3.5 Sample size determination

The TIVET staff comprising of all the principals, deputy principals, lecturers and technicians in the 18 TIVET institutions were selected to participate in the study. This category of respondents is referred to as a census where sampling was not required because all 202 targeted staff (100 percent) participated in the study. For the student sample, the Fisher et al. (1995) formula was used to calculate the sample size as indicated:

$$n = \frac{z^2pq}{d^2}$$

Where:

n = The desired sample size (if the target population is greater than 10,000).

Z = Standard score at 95% level of significance (1.96)

p = Proportion of the target population with characteristics under study which is 0.50 where the figure in not known.

q = 1-p (which is 0.50)

d = Level of statistical significance at 95% confidence level (which is 0.05)

Therefore:

$$n = \frac{(1.96)^2 * (0.50) * (0.50)}{(0.05)^2} = \frac{0.9604}{0.0025} = 384.160$$

$$n = \frac{(3.8416)\ (0.2491).1}{(0.0025)} = \frac{0.9604}{0.0025} = 384.16 = 384$$

Since the target population of 492 students was below 10,000, Fisher et al. (1995) recommended that the following formula be used:

$$nf = \frac{n}{1 + (n/N)}$$

Where:

nf = Sample size where the target population is below 10,000

n = Computed sample size when population is above 10,000

Thus:

$$nf = \frac{384}{1 + (384/492)} = \frac{384}{1 + (0.784)} = \frac{384}{1.7804} = 215$$

nf = 215

Therefore, the expected student sample size was 215. In this study a total of 250 second year students who met the inclusion criteria participated in the study. However 200 students responded.

3.6 Research Instruments

Three types of research instruments were used namely questionnaires, interview schedules and observation checklists. The questionnaire was made up of four sections. Section A contained questions on general information of the respondents. Section B contained items on qualifications and training. Section C contained items on physical facilities and learning resources. Section D contained questions on methods of teaching. The researcher used the observation checklist to capture features and aspect of the study not addressed by the questionnaire.

A clothing and textile observation checklist was adopted from a ten Flanders Interaction Analysis Categories (FIAC), (1970). Ned. A. Flanders developed a system of interaction analysis to study what is happening in a classroom when a teacher teaches. It is known as Flanders Interaction Analysis Categories System (FIACS). Flanders developed this system at the University of Minnesota, U.S.A. between 1955 and 1970. Flanders classified total verbal behaviour into 10 categories. Verbal behaviour comprises teacher talk, student talk and silence or confusion. They were a list of specific items that were of interest to the observer. This contained lecturer and student related items on teaching methods, questioning techniques, response, talk initiation and silence. The instrument was used to observe both the practical and theory lessons in clothing and textiles with the aim of providing additional data on teaching methods and use of teaching learning resources. Each activity was tallied and the total number of tallies used to determine the strength or the weakness of that activity. Questionnaires were used to gather data from lecturers, students and technicians while the interview schedule was to collect data from the principals and their deputy principals.

According to Kiess and Bloomquist (1994) observed that the questionnaires offer considerable advantages in administration. They present an even stimulus, potentially to large numbers of people simultaneously, and provide the investigation with an easy accumulation of data. On the other hand, interview schedules are considered appropriate when the sample is small, since a researcher is able to get more information from respondents than would be possible using a questionnaire.

3.7 Reliability and Validity of the Instruments

Pre test was done to test on the validity and reliability of the instruments. According to Mugenda and Mugenda (2003) observed that once the questionnaire has been finalized, it should be tried out in the field. The questionnaire should be pretested to a selected sample which is similar to the actual sample which the researcher plans to use in the study. They further noted that the procedure used in pretesting the questionnaire should be identical to those which will be used during the actual data collection. This would allow the researcher to make meaningful observation.

3.7.1 Validity

According to Mugenda and Mugenda (2003), validity is the degree to which results obtained from the analysis of data actually represent the phenomena under study. A valid instrument should accurately measure what it is supposed to measure. After administering the instruments to the selected respondents, the data obtained should be a true reflection of the variables under study. To test for the validity of the instruments, opinion from supervisors was sought to check on the content validity of the instruments.

3.7.2 Reliability

Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trials. To

enhance reliability of instruments, a pre-testing study was conducted at the Rift Valley Institute of Science and Technology in Rift Valley. The instruments were administered to 8 lecturers, and 8 students who were not to be included in the actual study. The reliability of the instruments was tested by the use of split-half method. The method involved scoring two halves, odd and even items of the test separately for each category of data, and then calculating the correlation coefficient for the two sets (halves) of scores. The coefficient indicated the degree to which the two halves of the test provided the same results, and hence, described the internal consistency of the test. The researcher used Spearman Brown Prophecy formula as shown below:

$$\frac{2 \times \text{Corr. between the Halves}}{1 + \text{Corr. between the Halves}}$$

$$r = \frac{2r}{r + 1}$$

r = reliability of the coefficient, resulting from correlating the scores of the odd items with the scores of the even items. According to Gay (2003), coefficient of 0.70 is considered adequate but a coefficient of 0.80 is good. There was a coefficient of 0.76 for the lecturers' questionnaire and a coefficient of 0.78 for students' questionnaire. The instruments were therefore considered reliable as they had a coefficient between 0.70 and 0.80.

3.8 Data Analysis Plan

Data collected from the field was coded and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS) Version 17. As Martin and Acuna (2002) observe, SPSS is able to handle large amounts of data, and given its wide spectrum of statistical procedures purposefully designed for social sciences, it

is quite efficient. Both qualitative and quantitative data analysis techniques were used to analyse the data. Qualitative data was analysed by arranging responses according to the research questions and objectives. Descriptive statistics was used to describe the distribution of variable such as infrastructural support, training needs, teaching methods and improved and effective TIVET Training.

3.9 Logistical and Ethical Considerations

The researcher considered the various ethical issues during the study.

The researcher got an introduction letter from Kenyatta University and a research permit from the National Council of Science and Technology, under the Ministry of Higher Education. The source of data was from the principals, lecturers and technicians in all the 18 institutions targeted by the study. Appointments were made with the sampled institutions through the principals, to visit and administer the questionnaires to the targeted respondents. The researcher visited the institutions and administered the questionnaires in person. The respondents gave informed consent and were assured of confidentiality. The respondents were given enough time to fill in the questionnaires, after which, the researcher collected them immediately.

The researcher arranged with the principals of the institutions and confirmed the dates for data collection. This was done to eliminate the cases of surprise entry into the institutions without prior information or notification to clarify on the intention of the visit. The researcher also ensured the confidentiality of the information got from the respondents. This was achieved by using the information without mentioning the specific names or institutions where the data was collected.

CHAPTER FOUR: DATA ANALYSIS, PRESENTION AND DISCUSSION

4.0 Introduction

This chapter presents the findings of the study. The purpose of this study was to analyze infrastructural support and trainer professional attributes in TIVET institutions in Kenya offering clothing and textile courses. A total of 452 respondents were targeted by the study (consisting of 250 second year students taking diploma course in clothing and textile, 18 technicians, 148 lecturers and 36 principals and deputy principals) out of which 393 responded (200 students, 142 lecturers, 16 technicians, 17 deputy principals, 18 principals) giving a response rate of 87%. The findings of the study are as presented as below according to the study.

4.2 General Information of the Respondents

This section presents the respondents' information regarding their gender and age.

4.2.1 Distribution of the Respondents by Gender

The study found that 85% of the academic staffs were female while 15% were male. This showed that the female academic staff were the dominant gender in the clothing and textile discipline. The study also found that 20% of the students interviewed were male while 80% were female. This is an indication that clothing and textile courses are dominated by female students. This is shown in Table 4.1.

Table 4.1 Distribution of Academic Staff by Gender

Gender	Students		Lecturers	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Male	39	20	21	15
Female	161	80	121	85
Total	**200**	**100**	**142**	**100**

4.2.2 Distribution of the Academic Staff by Age

In establishing the distribution of the respondents by age, the study found that 74 (52%) of the academic staff members were aged between 41-50 years, 50 (35%) were between 31-40 years, 11 (8%) were above 50 years and 7 (5%) were below 30 years. This is an indication that most of the academic staff in the sampled institutions were of middle age which is a reflection of their experiences thus the information given for this study was considered reliable and In determining the distribution of academic staff by age, the study found out that (52%) of the academic staff member was aged 41-50 who will retire at the same leave the service. The number will affect the training if there are no new recruit to take up those positions These results, complimented a study by Wisdom J. Tettey (2010), the urgency of the need for initiatives to build the next generation of academics in African universities is made clear by the fact that the current crop is ageing very fast, with no commensurate expansion in the numbers of young scholars entering the profession. He also examined the extent to which these dimensions make it imperative that the development of the next generation of African academics becomes an urgent priority for all stakeholders. This is as shown in Figure 4.1.

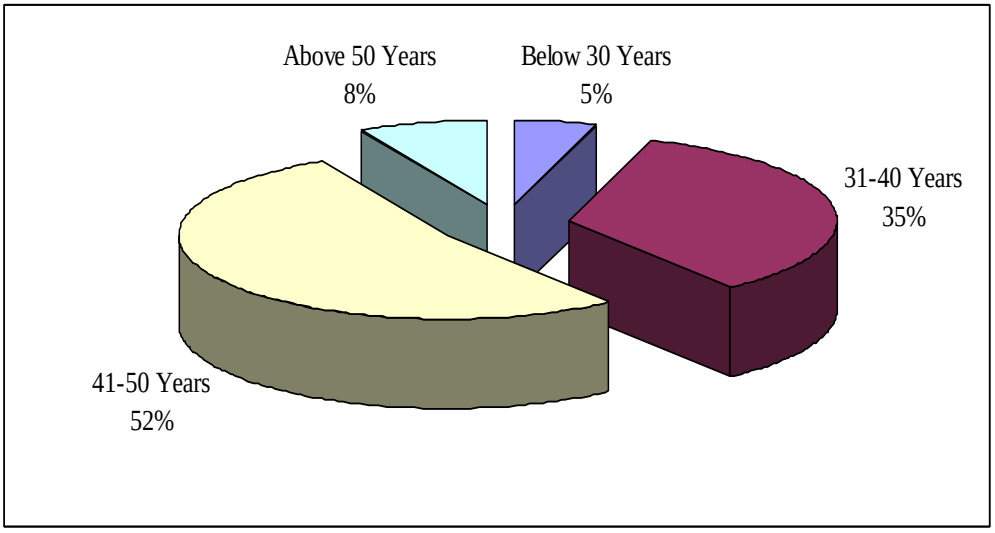

Figure 4.1 Distribution of the Academic Staff Respondents' by Age

4.3 Qualification of Academic Staff

This section presents information of the work experience of the teaching staff and principals and academic qualifications of the teaching staff.

4.3.1 Distribution of the Academic Staff by Work Experience

The academic staff interviewed was asked to indicate their working experience. The study found that 25% of the respondents had a work experience between 11-15 years. The study also found that 22% of the respondents had a work experience between 6-10 years. From the findings of the study, it can deduced that most of the academic staff in the institutions studied had worked for a period more that 5 years thus they were considered to have information on infrastructural support and trainer attributes in the Institutions studied. The findings of the study were as shown in Table 4.2.

Table 4.2 Distribution of the Academic Staff Members by Work Experience

Work Experience	**Frequency**	**Percentage**
No work experience	13	9
Less than 1 year	9	6
1-5 Years	20	14
6-10 Years	31	22
11-15 Years	36	25
16-20 Years	18	13
21-25 Years	7	5
Above 25 Years	8	6
Total	**142**	**100**

4.3.2 Duration of Service for Principals/Deputy Principals

On the distribution of the principals and deputies by experience, the study found that 33% of the respondents had served in their positions for duration between 4-5 years. The study also found that 26% had served in their positions for a period between 2-3 years, 23% had served for 1 year, 9% had served for a duration between 6-7 years, 7% had served for a duration between 8-9 years and 3% had served for a period of 10 years and above. From the findings of the study, it is evident that most of the principals and deputies interviewed had served in their positions for a period more than 4 years and were therefore considered to have information on the infrastructural support and trainer professional attributes in TIVET institutions in Kenya. The findings are presented in Table 4.3.

Table 4.3 Duration of Service for Principal/Deputy Principals

Duration of Service	**Frequency**	**Percentage**
1 Year	8	23
2-3 Years	9	26
4-5 Years	12	33
6-7 Years	3	9
8-9 Years	2	6
10 Years and above	1	3
Total	**35**	**100**

4.3.3 Distribution of Academic Staff by Highest Academic/Professional Qualifications

The study found that most of the respondents interviewed (58%) had Technical Diploma in Clothing Technology. The study also found that 18% had diploma in clothing and textile and 9% of the respondents had a degree in Textile and Interior Design. According to the revised scheme of service for technical teachers and lecturers by TSC (2007), the qualification for technical lecturer is diploma in technical education. Ngada in Fajonyomi (2007) emphasized that the success or failure of any educational programme rests majorly on the adequate availability of qualified (professional), competent and dedicated teachers. From the findings of the study, it can be deduced that even though the academic staff in the Institutions studied was academically qualified based on the fact that majority had technical

diploma in clothing and textile; they needed additional trainings to upgrade their skills. The findings are presented in Table 4.4.

Table 4.4 Distribution of Academic Staff by Highest academic/Professional Qualifications

	Frequency	**Percentage**
Secondary Education	3	2
Certificate in Clothing and Textile	1	1
Diploma in Clothing and Textile	25	18
Technical Diploma in Clothing Technology	82	58
Diploma in Education	6	5
Graduate in Textile and Interior Design	10	9
Post Graduate in Fashion Design	5	4
Machine Maintenance Course	4	3
	142	100

In an interview with the Principals/Deputy Principals on the qualification of academic staff in the institutions studied, they stated that their staffs were qualified but they needed additional trainings to upgrade their skills. This they explained by the fact that learning was continuous accompanied by changes in the use of technology which requires updating of skills to ensure effective teaching and learning in the institutions. The Technical and Vocational Education and Training Act,

2013 recommends continuation of training for improvement of professional qualifications and updating of knowledge, skills and understanding.

4.4 Training Needs of Staff

In this section, the researcher sought to determine whether there was need for staff training in clothing and textile.

4.4.1 Attendance of Skills upgrading Course

The members of the academic staff were asked to indicate whether they had attended any skill upgrading course. The study found that 111(78%) indicated that they had never attended such courses while 31(22%) indicated that they had attended such courses. This was an indication that there was need for skill upgrading among the academic staff in the institutions studied. These results, complimented a study by MOEST (2003) that found that there was lack of experienced instructors for the success of TIVET program. It recommended that in order to drive industrial development, additional applied skills and knowledge are necessary for instructors. This is an indication that there is need for upgrading of skills among the academic staff in the TIVET institutions. The findings of the study were as presented in. The findings of the study were as presented in Figure 4.2.

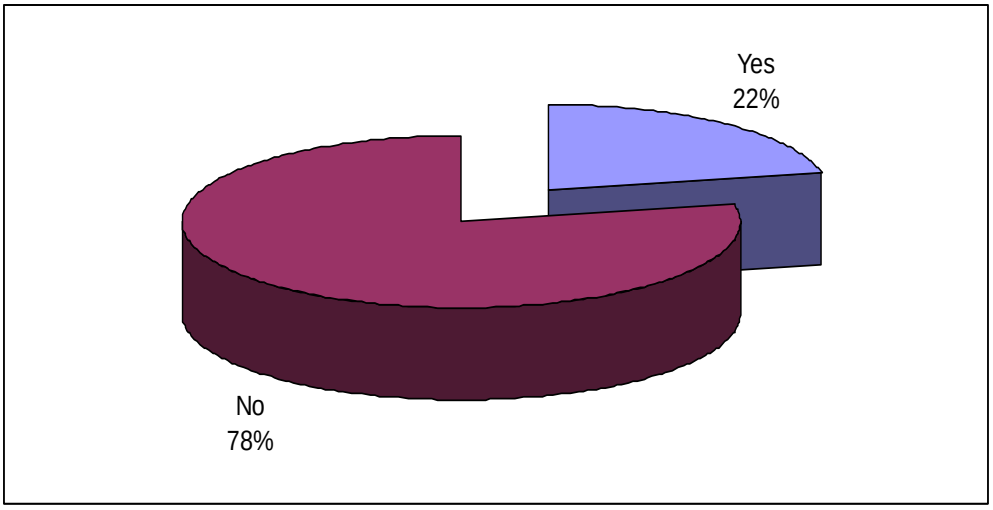

Figure 4.2 Attendance of Skill upgrading Course

Those who had attended training reported that they had attended the following courses: technical skills upgrading 8(5%), entrepreneurial training 5(4%), technical training 4(3%), and supervisory management 4(3%), and machine maintenance 3(2%), trainer of trainees 3(2%), machine repair 2(1%) and senior management 2(1%).

4.4.2 Need for Training

The respondents were asked to state whether there was need for skills among the academic staff. The study found that all the respondents 142 (100%) indicated that there was need for training to upgrade their skills. The trainings were required in the following lines: entrepreneurial training, degree in clothing and textile, degree in fashion, use of IT in clothing and textile, machine maintenance, technical diploma in clothing technology, technical skills upgrading, computer aided design and masters in fashion design. These findings complemented a study by MOEST (2007) that found that there was lack of experienced instructors for the success of TIVET program. It recommended that in order to drive industrial development, additional applied skills and knowledge are necessary for instructors.

Respondents were asked to identify the areas where the training was required. The following areas were reported: entrepreneurial training (22%), degree in clothing and textile (15%), degree in fashion (10%), training in the use of IT in clothing and textile (17%), machine maintenance (4%), technical diploma in clothing technology (6%), technical skills upgrading (16%), computer aided design (6%) and masters in fashion design (4%).

4.5 The Status of Equipment and Physical Facilities

4.5.1 Availability of required Facilities and Equipment

Student respondents were asked to indicate whether all the facilities and equipment required for learning were available. The study found that 172 (86%) of the respondents indicated that they did not have all the facilities and equipment required for learning while 28 (14%) indicated that they had all the facilities and equipment required. From the study findings, it can be said that most of the institutions studied did not have adequate facilities and equipment. The results complemented the findings by GOK (2005) which revealed that the challenges facing institutions are: inadequate facilities and capacities to cater for students. The findings were complemented by the findings of a study done by MOEST (2007) which found that that the equipment used in TIVET institutions were obsolete. According to Nyerere (2009), some of the challenges still facing TIVET include inadequate facilities and capacities to cater for the large numbers of those who complete primary and secondary education and wish to undertake TIVET.

The findings of the study are presented in Figure 4.3.

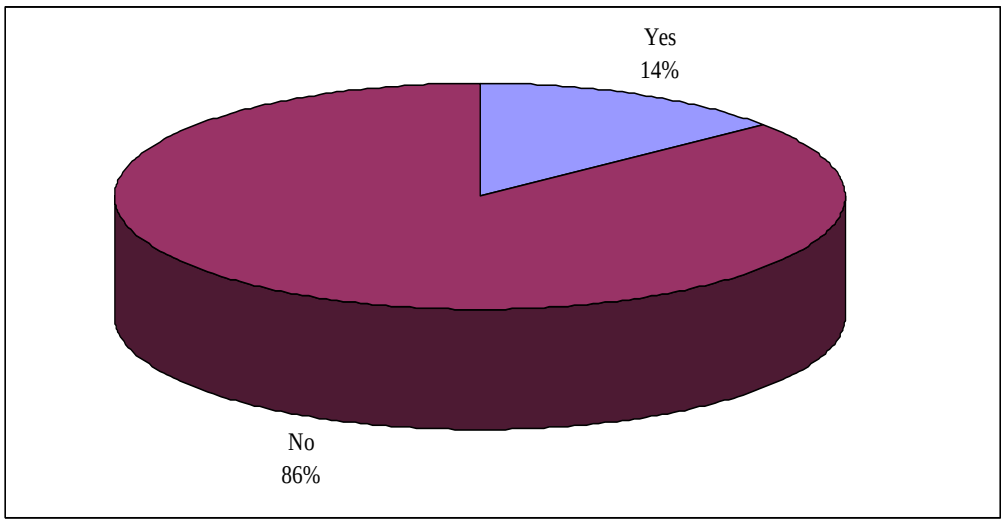

Figure 4.3 Availability of Physical Facilities

4.5 Students responses.

To determine on the availability of specific facilities and resources, students were asked to indicate the level of availability of different physical facilities in their institutions. The study found that resources such as clothing and textile workshops, needles, drafting papers, sewing threads and pattern transferring tools were available and adequate in numbers. The study also found that facilities such as working tables, stools, sewing machines, iron boxes, scissors, tape measures, dressmakers steel pins, seam rippers and bobbins were available but inadequate in numbers for use by students. This encouraged sharing and working in groups even where students were to carry out the exercises individually. Computer laboratories were not available and where they were available, they were not working. From the study findings, it can be said that even though the resources required were available, most of them were inadequate. The findings are as presented in Table 4.5.

Table 4.5 Students responses about Availability of Physical Facilities

Facilities and Resources	Available		Available but not enough		Not available		Available not and working or		Total (%)	
	F	%	f	%	f	%	f	%	**f**	**%**
Workshops	192	96		0	0	0	8	4	**200**	**100**
Working tables	26	13	162	81	2	1	10	5	**200**	**100**
Computer laboratory	1	2	1	2	196	98	2	1	**200**	**100**
Stools	10	5	156	78	26	13	8	4	**200**	**100**
Sewing machines	70	35	124	62	0	0	6	3	**200**	**100**
Iron boxes/ironing surface	4	2	180	90	12	6	4	2	**200**	**100**
Fabrics	112	56	76	38	0	0	10	5	**200**	**100**
Fabric cutting shears	0	0	124	62	64	32	12	6	**200**	**100**
Tape measures	8	4	144	72	46	23	2	1	**200**	**100**
Needles	142	71	46	23	4	2	8	4	**200**	**100**
Dressmakers steel pins	8	2	146	73	36	18	10	5	**200**	**100**
Seam ripper	8	2	136	68	44	22	12	6	**200**	**100**
Bobbins	8	2	130	65	46	23	16	8	**200**	**100**
Drafting papers	190	95	0	0	0	0	10	5	**200**	**100**
Sewing Threads	190	95	0	0	0	0	10	5	**200**	**100**
Pattern transferring tools	192	96	0	0	0	0	8	4	**200**	**100**
Storage facilities	20	10	72	36	98	49	10	5	**200**	**100**

4.5.2 Sufficiency of Training Facilities

Student respondents were asked to indicate whether the facilities available were sufficient. The study found that 180 (90%) of the respondents indicated that the facilities were inadequate while 20 (10%) indicated that they were sufficient (See Appendix VII). From the findings of the study, it can be said that the facilities available in the institutions were insufficient. The findings of the study are presented in Table 4.6.

Table 4.6 Sufficiency of Training Facilities

	Frequency	**Percentage**
Adequate	8	10
Not Adequate	70	90
Total	**78**	**100**

The respondents were further asked to give explanation for their responses. Those who indicated that the facilities were insufficient (90%) stated that over-lock machines were inadequate, some machines were out of order, training space was inadequate, breakdown of some machines, inadequate machines and that there were too few tables. Those who indicated that the machines were sufficient mentioned that most of the departmental workshops were well equipped with working machines and that the sharing ratio per machine was normally low (10%).

To test further the sufficiency of training facilities in terms of space, the members of the academic staff interviewed were asked to indicate whether they were comfortable

in their work places. The study found that 102 (72%) of the respondents indicated that their work place was fairly congested. The study also found that 20 (14%) indicated that their work places were congested and another 20 (14%) indicated that their work places were not congested. The findings complement the findings by GOK (2005) which revealed that the challenges facing institutions are: inadequate facilities and capacities to cater for students. From the findings of the study, it can be said that most of the institutions studied had fairly congested work places. The findings of the study were as presented in Figure 4.4.

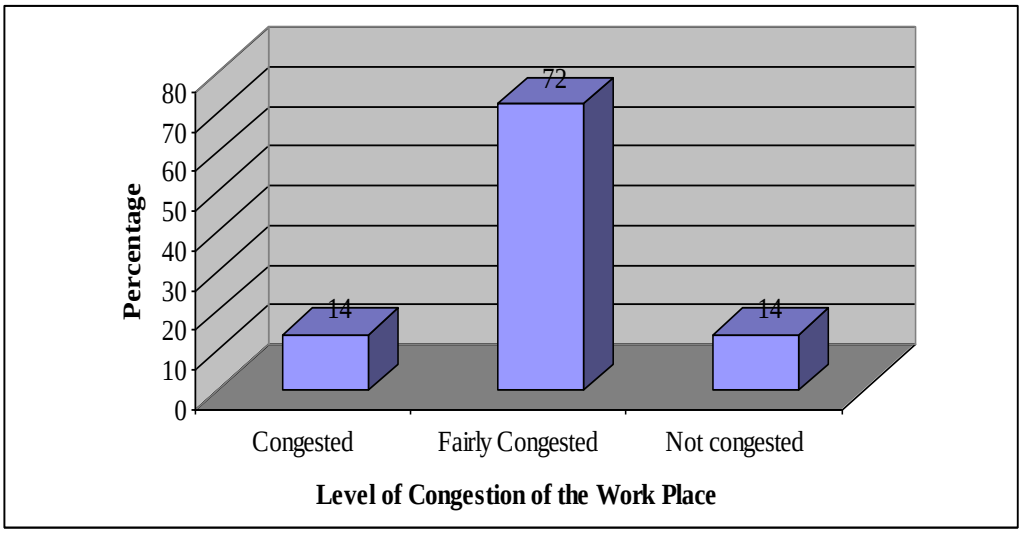

Figure 4.4 Congestion of the Work Place

In an interview with the principals and their deputies, they were asked to comment on the status of the general infrastructural support in their Institutions. They commented that "our Institutions have outdated infrastructure which need upgrading and we have many students in the institutions compared to the capacity of the institutions in terms of resources and facilities".

4.5.3 Availability and Adequacy of Teaching Resources

On teaching resources, the researcher used observation checklist to check on the availability and adequacy of teaching resources. The study found that chalk board was available and adequate in all the Institutions studied. The study also found that teacher made charts were available in 5 (28%) of the institutions studied, out of which only three of the institutions had adequate charts. Flip charts and overhead transparencies were not available in all the 18 institutions studied. Sample files of different clothing processes were available in 14 (78%) of the institutions studied, where 9 institutions had them adequately. It was finally observed that exhibits were available in 12 (67%) of the institutions studied out of which, 3 of the institutions had them adequately. From the findings of the study, it can be said that even though some of the teaching resources were available in the institutions studied, most of the resources were inadequate. The findings are presented in Table 4.7

Table 4.7 Availability and Adequacy of Teaching Resources

Teaching Resources	**Available**		**Not available**		**Adequate**		**Inadequate**		**Total (%)**	
	F	%	f	%	f	%	f	%	**f**	**%**
Teacher made charts	5	28	13	72	3	60	2	40	**5**	**100**
Flip charts	0	0	18	100	0	0	0	0	**0**	**0**
Chalk Board	18	100	0	0	18	100	0	0	**18**	**100**

Sample files of different Clothing processes	14	78	4	22	9	33	5	67	**14**	**100**
Overhead transparencies	0	0	18	100	0	0	0	0	**0**	**0**
Exhibits	12	67	6	33	3	20	9	80	**12**	**100**

In an interview with the principals on the availability and adequacy of teaching and learning resources in the institutions, they stated that most of the required resources and facilities were available but inadequate. This they explained by the fact that the number of the students were higher than the available resources and facilities making learning difficult.

On the relevance and flexibility of the existing technical education in response to the changing needs of industrial and labour market, the principals indicated that the training could be more relevant if the available resources are updated with the current technology. They suggested that the current curriculum should be reviewed because of the changing technology in order to be flexible in terms of the changing trends.

4.5.2 Sewing Machines Sharing Ratio among Students

The academic staff were asked to indicate their machine sharing ratios. The study found that 78 (55%) of the respondents indicated that their machine sharing ration was 3:1, 47 (33%) had a sharing ratio of 1:1, 11 (8%) indicated 2:1 and 6 (4%) indicated that they shared one machine between more than 3 students. According to Nyerere (2009), some of the challenges still facing TIVET include inadequate

facilities and capacities to cater for the large numbers of those who complete primary and secondary education and wish to undertake TIVET. From the findings of the study, it can be shown that one of the challenges facing TIVET institutions is inadequacy of teaching and learning resources. The findings are presented in Figure 4.5.

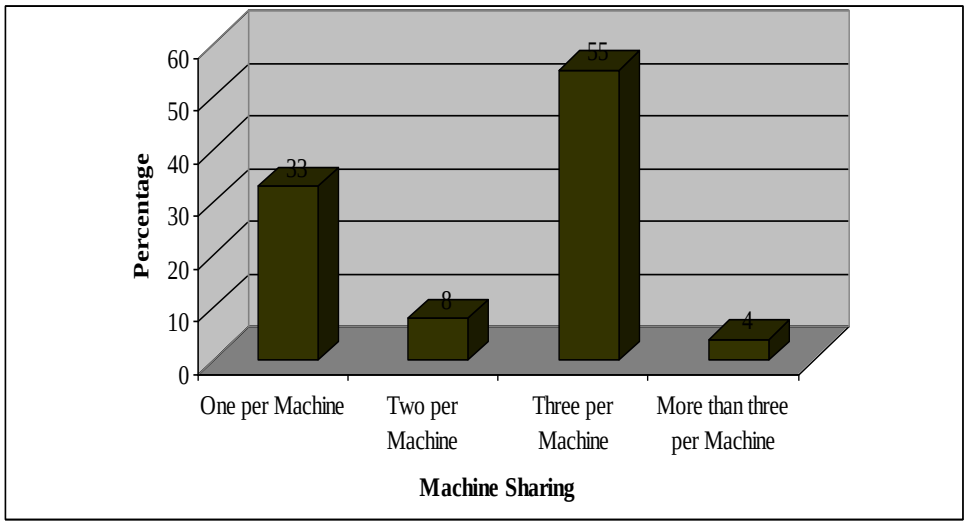

Figure 4.5 Sewing machine Sharing Ratio among Students

In an interview with the technicians on the adequacy of teaching and learning resources in their institutions, they indicated that some of the required resources were not available and that the available resources were not adequate.

4.6 Teaching Methods

In this section, the researcher sought to assess the teaching methods used by teachers in teaching clothing and textile in the Institutions studied.

4.6.1 Use of the different Teaching Methods

On the teaching methods, the study found that practical work done in class and given as home work was used very often as indicated by 91%. The study also found that lecture and teacher notes (77%), demonstration (73%), questions and answers (65%) and class discussion (55%) were used often. This view concurs with Mutema, Naweya and Kang'ethe (1999) who found that students learn when they are actively involved and that they must be allowed to practice after the teacher's demonstration. Seweje and Jegede (2005) noted that the ability of a teacher to teach is not derived only from one's academic background but it is based upon outstanding pedagogical skill acquired. These findings concurs with KESSP (2005), which found that the constraints to the success of TIVET programs were: poor physical and human capacity in management, inflexibility and irrelevance of the curricula for the industry, limited interaction with private sector and current fragmented government administration, which called for the development of National skills Training Strategy and the establishment of the National TIVET Authority.

The findings of the study were as presented in Table 4.8.

Table 4.8 Use of the different Teaching Methods

Physical Facilities and Resources	**Very often**		**Often**		**Occasionally**		**Rarely**		**Never**		**Total**	
	F	%	f	%	f	%	f	%	f	%	**f**	**%**

Lecturer and teacher notes	3	2	110	77	26	18	3	2	0	0	**142**	**100**
Demonstrations	11	8	104	73	27	19	0	0	0	0	**142**	**100**
Question and answer	17	12	92	65	27	19	7	5	0	0	**142**	**100**
Class Discussion	27	19	78	55	33	23	3	2	0	0	**142**	**100**
Practical work (class time)	129	91	11	8	2	1	0	0	0	0	**142**	**100**
Practical work (Home work)	129	91	6	4	3	2	2	1	0	0	**142**	**100**

The respondents were asked to give reasons for the choice of the training methods. The following reasons were given: efficiency and ease with which the learners could grasp the content, the subject being taught, nature of the unit being taught, and time allocated for the subject and the size of the class.

The respondents were further asked to indicate whether the methods used provided the variety and encouraged learning. The study found that all the respondents 142 (100%) stated that the methods gave variety of curriculum delivery and encouraged learning among students.

4.6.2 Challenges facing TIVET Institutions

To establish the perceived challenges facing TIVET institutions, the principals interviewed were asked to indicate some of the challenges facing the institutions. The following challenges were reported:

(a) Use of old equipment and technology

(b) Inadequate staff training to update their skills

(c) Inadequate staff in the Institutions,

(d) Lack of proper coordination between KIE, Ministry of Education and KNEC bringing confusion on entry grades.

These findings are supported by KESSP (2005), which found that the constraints to the success of TIVET programs were:

(a) Poor physical and human capacity in management,

(b) Inflexibility and irrelevance of the curricula for the industry,

(c) Limited interaction with private sector and

(d) Current fragmented government administration, which called for the development of National skills Training Strategy and the establishment of the National TIVET Author

4.6.3 Suggestions for the Solutions to the Challenges

The principals were further asked to indicate some of the solutions to the challenges facing TIVET Institutions. The following solutions were reported: (a) that TIVET Institutions should coordinate with other industries; (b) resources and facilities in the institutions should be upgraded to allow for the adoption of modern technology and (c) that the government should increase funding to TIVET Institutions.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the findings, conclusions, general recommendations and suggestions for further research.

5.1 Summary

The following summary of the study was based on the objectives in the introduction chapter of this study.

a)Distribution of Academic Staff by Gender

The distribution of academic staff by gender 85% of academic staff were female, it showed that the clothing and textile discipline was dominated by female staff.

b)Distribution of the Academic Staff Respondents' by Age

In determining the distribution of academic staff by age, the study found out that (52%) of the academic staff member was aged 41-50 who will retire and leave the service. The number will affect the training if there are no new recruit to take up those positions

c) Distribution of the Academic Staff by Work Experience

In establishing the distribution of the academic staff by working experience 25% indicated that they have experience and were able to give to give information about the study.

d) Qualification of Staff in selected Institutions offering Technical Education in Clothing and Textile Courses

In establishing the qualification of the academic staff in the institutions studied, the study found that most of the respondents interviewed (58%) had Technical Diploma in Clothing Technology hence they were considered academically qualified to handle the students. However, there was need to upgrade their skills.

e) Training Needs of Staff in the selected Institutions offering Technical Education in Clothing and Textile Courses

The study found that there was training need for the academic staff in the Institutions studied as indicated by all the respondents 142 (100%). The trainings were required in the following lines: entrepreneurial training, degree in clothing and textile, degree in fashion and design, use of IT in clothing and textile, machine maintenance, technical diploma in clothing technology, technical skills upgrading, computer aided design and masters in fashion design.

f) The status of Equipment and Physical Facilities used for Training Clothing and Textile Courses.

On the status of equipment and physical facilities, the study found that 172 (86%) of the respondents indicated that the facilities were inadequate. This was evidenced by the fact that resources such as clothing and textile workshops, needles, drafting papers, sewing threads and pattern transferring tools were available and adequate. On the other hand, facilities such as working tables, stools, sewing machines, iron boxes, text books, scissors, tape measures, dressmakers steel pins, seam rippers and bobbins were available but inadequate. Computer laboratories were not available and where

they were available, they were not working. The researcher's checklist for physical facilities, the researcher observed that textbooks were very few in all the institutions that were sampled.

h) Teaching Methods

The study found that practical work done in class and given as home work was used very often as indicated by 91%. The study also found that lecture and teacher notes (77%), demonstration (73%), questions and answers (65%) and class discussion (55%) were used often.

6.2 Conclusions

From the findings of the study, it can be concluded that:

a) Clothing and textile course is dominated by female staff.

b) The highest number of academic staff are about to retire, so there will be need for placement.

c) Most of the academic staff had long working experience and were able to give valid information towards the study.

d) The teaching staff in the institutions was academically qualified; however there was need for up-grading of skills.

e) The equipment and physical facilities were inadequate and needed up-grading and more textbook to be purchased for all institution.

f) There is need for the academic staff in the institutions studied to upgrade their skills in the use of current technology in clothing and textile.

g) The teaching methods commonly used in the institutions include: practical work, lecture and teachers notes, demonstrations, class discussions and questions and answers.

6.3 Recommendations for Policy and Practice

The following were the recommendations of the study:

a)Clothing and textile subject be introduced and be compulsory in all secondary schools so as to encourage gender balance

b Ageing professoriate. This study has pointed out the concentration of well-qualified academic staff in the age groups nearing, at retirement. Thus need for developing and placement.

c) That lecturers needed further training to upgrade their technical skills, which can be done in technical colleges and universities that offer clothing and textile and fashion and design.

d) The government should provide additional learning and training equipment to replace the obsolete resources.

e) Teachers should apply the most effective teaching method in Clothing and Textile such as demonstrations and practical work.

a) The curriculum developers Kenya Institute of curriculum Development (KICD) should involve the technical institutions in the new module curriculum of every course for their inputs

6.4 Recommendations for Further Research

This study was done in 18 technical training institutions in Kenya. The researcher therefore recommends that:

(a) A study be done to establish the level of adoption of the use of technology in clothing and textile in Technical, Industrial, and Vocational Entrepreneurship Training Institutions in Kenya.

(b) A study be done to establish the relevance of the curriculum in TIVET institutions in Kenya.

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APPENDICES

Appendix 1*:* Questionnaire for Lecturers and Technicians

Instructions

The questionnaire is designed to gather information on the analysis of the infrastructural support and trainer attributes in selected Technical, Industrial, and Vocational Entrepreneurship Training Institutions in Kenya. The questionnaire is divided in four sections, please complete each section as instructed and respond to each question by ticking (√) the appropriate response or by giving your own opinion as truthfully as possible. Your responses will be completely anonymous and will be used by the researcher for the purpose of this study only. All information in this questionnaire is **CONFIDENTIAL. DO NOT WRITE YOUR NAME** anywhere in this questionnaire.

SECTION A: Background information

1. What is your gender? (a). Male [ ] (b). Female [ ]

2. What is your age in years? ……

2. Indicate your working experience in

a) Months …….

b) Years ……..

SECTION B: Qualifications and training

4. What is your highest Academic/Professional qualification?

a) Secondary education [ ]

b) Certificate in clothing and textile [ ]

c) Diploma in clothing and textile [ ]

d) Technical diploma in clothing technology [ ]

e) Diploma in education [ ]

f) Graduate in clothing, textiles and interior design [ ]

g) Post Graduate in fashion design [ ]

h) Other specify…… [ ]

5. Have you attended any skill upgrading course?.....

6. If yes, identify the type of training you have attended

(a). Technical training [ ]

(b). Technical skills up grading [ ]

(c). Entrepreneurial training [ ]

d).other (specify)……

6. Would you want to be trained?

(a). Yes [ ] (b) No [ ]

7. If yes on what areas, specify……

SECTION C: Equipment and physical facilities used for training

9. Do you have all the required facilities and equipment for learning?

(a) Yes [ ] (b) No [ ]

10. What is the ratio of students versus sewing machines?

(a) One per machine [ ] (c) Two per machine [ ]

(b) Three per machine [ ] (d) More than three [ ]

11a. Are all the training facilities sufficient for training purpose?

(a) Yes [ ] 2. No [ ]

Please

explain……

12. How comfortable are trainees in the working spaces?

(a) Congested [ ] (b) Fairy congested [ ] (c) Not congested [ ]

15. Below is a list of Physical facilities that are necessary in the teaching of clothing and Textiles. Put a tick ( ) in the most appropriate column to indicate your judgment about their availability.

facilitiesPhysical	Available	Available and not in use	Not available	not working or used.Available and
Workshops				
Working tables				
Computer laboratory				
Stools				
Sewing machines				
Iron boxes/ironing surface				
Fabrics (enough for students use)				
Fabric cutting shears				
Tape measures				
Needles				
Dressmakers steel pins				
Seam ripper				
Bobbins				
Drafting papers				
Sewing threads				
Pattern transferring tools				
Storage facilities				

SECTION D: Methods of teaching used in Clothing and Textile Course.

16. Below is a list of instructional methods that can be used in the teaching of clothing and textiles, tick (√) the ones you use very often, often used, occasionally used, rarely used and never used.

Teaching Methods	Use very often	Often used	Occasionally used	Rarely used	Never used.
1.Lecturer and teacher notes					
2.Demonstrations					
3.Question and answer					
4. Class Discussion					
5.Practical work (during class time)					
6. Practical work (Home work)					
7. Assignment					

17. What is the basis for the choice of training methods?.....

18. Do the methods provide variety and encourage learning……

Appendix II: Questionnaire for Students
INSTRUCTIONS

The questionnaire is designed to gather information on the analysis of the infrastructural support and trainer attributes in selected Technical, Industrial, and Vocational Entrepreneurship Training Institutions in Kenya. The questionnaire is divided in four sections, please complete each section as instructed and respond to each question by ticking (√) the appropriate response or by giving your own opinion as truthfully as possible. Your responses will be completely anonymous and will be used by the researcher for the purpose of this study only. All information in this questionnaire is **CONFIDENTIAL. DO NOT WRITE YOUR NAME** anywhere in this questionnaire.

SECTION A: Respondent Characteristics.

Please tick (√) in the spaces provided or complete as appropriate

1. What is your age in years?.....

2. What is your gender? (a) Male [ ] (b) Female [ ]

SECTION B: Qualifications and Training

6. What objectives did you wish to achieve from the training?

..…….....

7. Will the course assist you to accomplish your objectives?

(a). Not at all [ ] (b). Partly [ ] (c). Fully [ ]

8. Please assess your level of understanding of clothing and textile technical skills before commencing the training and now by ticking (√) in the appropriate box below.

	Before training			**Now**		
Skill type	**Good**	**Average**	**Poor**	**Good**	**Average**	**Poor**
Technical skills						
Free hand cutting						
Planning/Decision making						
An Entrepreneur						
Pattern designer						
Innovation of creative designs						

SECTION C: Adequacy and efficiency of equipment and physical facilities used for training

10. Below, is a list of Physical facilities that are necessary in the teaching of Clothing and Textiles. Put a tick ( ) in the most appropriate column to indicate your judgment about their availability.

Physical facilities	Available	Available and not in use	Not available	not working or used.Available and
Workshops				
Working tables				
Computer laboratory				
Stools				
Sewing machines				
Iron boxes/ironing surface				
Fabrics (enough for students use)				
Fabric cutting shears				
Tape measures				
Needles				
Dressmakers steel pins				
Seam ripper				
Bobbins				
Drafting papers				
Sewing threads				
Pattern transferring tools				
Storage facilities				

11 Are the materials/equipment you are using for training current/updated?

(a) Yes [ ] (b) No [ ]

12. Do you have adequate space for training?

(a) Yes [ ] (b) No [ ]

SECTION D: Training Approaches and Methodologies

16. Please rank on the scale 1 to 3 (poor, good and excellent) the benefits of your training program to you on the aspects below

Aspect	**Poor**	**Good**	**Excellent**
Skills	1	2	3
Knowledge	1	2	3
Training	1	2	3
Behaviour change	1	2	3

17. Rank the usefulness of the following training approaches and methodologies used in the technical training program on a scale of 1 to 3 from useful, less useful and not useful.

Approach/Methodology	Useful	Less useful	Not useful
Lectures	1	2	3
Demonstrations	1	2	3
Group activities	1	2	3
Exercise	1	2	3
Practice work	1	2	3

18. What suggestions do you have on the improvement of training in entrepreneurship in Kenya for the purposes of MSE growth, which has not been addressed in this instrument?

……

……

19. Suggest measures that can be taken to ensure that the following stakeholders realize the goals of technical education in Kenya:

a. The government……

……

c. The community……

……

d. Students……..

……

e. Lecturers……

……

Appendix III: Interview Guide for the Principals and deputy Principals
Instructions

The interview Guide is designed to gather information on the analysis of the infrastructural support and trainer attributes in selected Technical, Industrial, and Vocational Entrepreneurship Training Institutions in Kenya. Your responses will be completely anonymous and will be used by the researcher for the purpose of this study only. All information in this interview Guide is **CONFIDENTIAL.**

For how long have you served as a principal in this institution?_____

1. What can you say about the academic and professional qualification of teaching staff in your institution with reference to clothing and textile programme (Are they qualified or not?) Briefly explain

_____

_____

2. Does the teaching staff attend in-service training to upgrade their teaching skills?

a)Yes [ ] a) No [ ]

3. In your own opinion do you have enough teaching and learning resources in your institution for clothing and textile (Briefly explain)_____

_____

4 .How sufficient are the physical facilities used for training in your institution?_____

_____

_____

6. What can you say about the relevance and flexibility of the existing technical education training in response to the changing needs of industrial and labour market?

_____

_____

7. What mechanisms do you have in place to ensure utilization of technical education training?

_____

_____

8. What is the extent of stakeholders' (clothing and textile industries, Fashion and design universities, tailoring and dressing making entrepreneurs and so on) involvement in the skills training programmes?

_____

_____

9. What would you suggest to be done by stakeholders to ensure they realize the goals technical education in Kenya?

_____

_____

10. What are some of the challenges facing TIVET institutions in Kenya?

_____

_____

12. Suggest solutions to the challenges identified above?

Appendix IV: Researcher's Checklist for Physical facilities

Physical facilities	Available	Available and not in use	Not available	not working or used.Available and
Workshops				
Working tables				
Computer laboratory				
Stools				
Sewing machines				
Iron boxes/ironing surface				
Fabrics (enough for students use)				
Fabric cutting shears				
Textbooks				
Tape measures				
Needles				
Dressmakers steel pins				
Seam ripper				
Bobbins				
Drafting papers				
Sewing threads				
Pattern transferring tools				
Storage facilities				

Appendix V: Researcher's Checklist for Teaching Resources

TEACHING RESOURCES	**Availability**		**Adequacy**	
Real objects	**Available**	**Not available**	**Adequate**	**Inadequate**
Teacher made charts				
Flip charts				
Chalk Board				
Sample files of different Clothing processes				
Overhead transparencies				
Exhibits				

Appendix VI: Sampled TIVET Institutions

TECHNICAL INSTITUTES (8)

No.	Name of Institution	Level	No. of 1st year students	No. of 2nd year students	Total No. of students	No. of Technicians	No. of Lecturers	P/D Principals
1	Kangema	Diploma	6	8	14	1	11	2
		Certificate	16	11	27			
2	Machakos	Diploma	21	19	40	1	12	2
		Certificate	28	14	52			
3	Nairobi	Diploma	21	25	46	1	5	2
		Certificate	14	6	20			
4	Nkabune	Diploma	8	6	14	1	8	2
		Certificate	13	10	23			
5	Meru	Diploma	6	14	20	1	12	2
		Certificate	12	8	20			
6	O'Lessos	Diploma	15	11	26	1	6	2
		Certificate	20	28	48			
7	Mombasa TTI	Diploma	8	10	18	1	11	2
		Certificate	15	7	22			
8	North Eastern Province Technical Training Institute	Diploma	4	6	10	1	9	2

	(NEPTTI)							
		Certificate	5	11	16			
	Total		89	99	188	8	74	16

INSTITUTES OF TECHNOLOGY (10)

No.	**Name of Institution**	**Level**	**yearNo. of 1st**	**No. of 2nd year**	**Total No. of Students**	**TechniciansNo of**	**No. of lecturers**	**PrincipalsP/D**
1.	Gusii	Diploma	8	12	20	**1**	**5**	2
		Certificate	20	22	42			
2	Kirinyaga IT	Diploma	11	13	24	1	11	2
		Certificate	4	5	9			
3	Mathenge TTI	Diploma	15	5	20	1	7	2
		Certificate	23	15	16			
4	Meru IT	Diploma	11	19	30	1	5	2
		Certificate	9	8	17			
5	Moi I T	Diploma	12	11	23	1	6	2
		Certificate	-	-	-	-		-
6	Muranga IT	Diploma	15	21	36	1	4	2
		Certificate	17	11	28			
7	Ramogi	Diploma	19	24	43	1	6	2
		Certificate	21	18	39			
8	Rift Valley	Diploma	45	32	77	1	15	2

	I T							
		Certificate	12	11	23			
9	Sang'al o	Diploma	4	6	10	1	7	2
		Certificate	7	3	10			
1 0	Coast I T	Diploma	13	8	21	1	8	2
		Certificate	9	21	30			
	Total		**153**	**151**	**304**	**10**	**74**	**20**

Summary of the Sample

NO	**onName of Instituti**	**Level**	**1st year**	**2nd year**	**No. of Students**	**No of Technicians**	**N0. lecturers**	**PrincipalP/D**
8	Technical Institutes	Diploma	89	99	188	8	74	16
1 0	Institutes of Technology	Diploma	153	151	304	10	74	20
	Total		**242**	**250**	**492**	**18**	**148**	**36**

Appendix VII: Photo Showing a Sewing Session

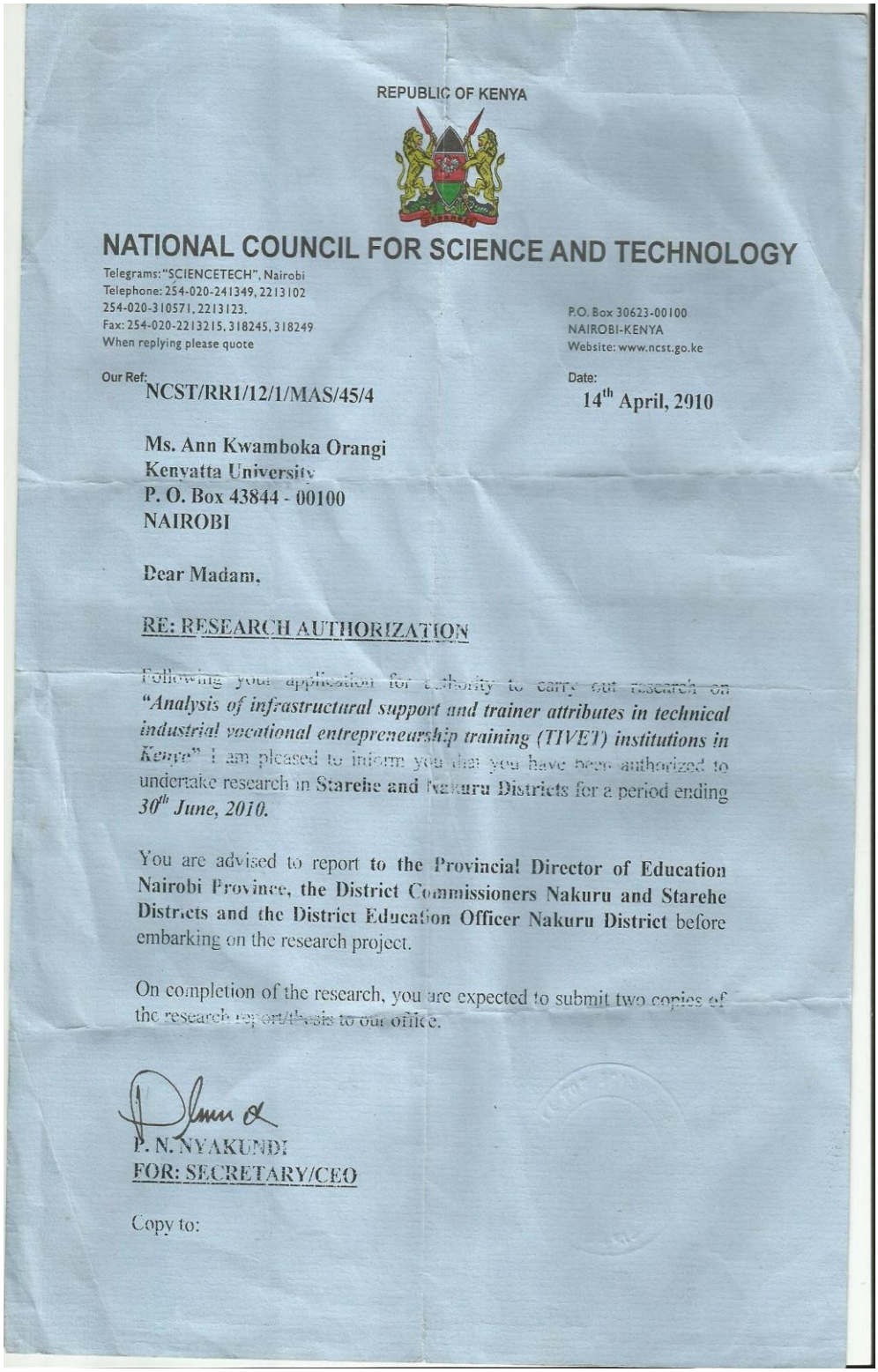
Appendix VIII A summary on modern studio arrangements

Table: 2.1

No.	Department	Arrangements
1	Design	Skilled designers, Computer Aided Design computers with software's such as Kaledo, Spectra, Gerber, Photoshop. Equip students with design skills that can be enhanced during Industrial placement and after finding jobs.
2	Cutting room	Equipped with pattern design system, Marker making systems and human capital highly skilled in both manual and digital pattern design. Equipped with at least 50% skills and equipment required in a cutting room department within the fashion industry
3	Sewing room	Should be equipped with quality sewing machines enough to the number of student and other extra machine in case the number increases**.** Fashion design studio comprises 3 separate sewing lines with 17 fully automated sewing machines with a production rate of 1500 garment. Workstation should be efficient and lay out so that it is as easy as possible to get the work done with the fewest disruption to the flow of work.

4	Finishing and inspection	Equipped to do Finishing and inspection. These two processes are vital in the production garments because finishing insures that the garment is correctly completed in every detail, and inspection verifies that it conform to the relevant quality standard The details involved in finishing very according to garment type but in principle described here, student are supposed to be trained on these skills which are lacking and make the student unable to cope with the current technology. The pressing equipment and methods is part of finishing and various types of pressing equipment are used widely in the garment industry. Some of the most common ones are; Electric Steam Iron Steam Irons Pressing tables

Appendix IX: Research Permit



REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
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254-020-310571, 2213123,
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When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: NCST/RR1/12/1/MAS/45/4

Date: 14th April, 2010

Ms. Ann Kwamboka Orangi
Kenyatta University
P. O. Box 43844 - 00100
NAIROBI

Dear Madam,

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"Analysis of infrastructural support and trainer attributes in technical industrial vocational entrepreneurship training (TIVET) institutions in Kenya"* I am pleased to inform you that you have been authorized to undertake research in **Starehe and Nakuru Districts** for a period ending *30th June, 2010.*

You are advised to report **to the Provincial Director of Education Nairobi Province, the District Commissioners Nakuru and Starehe Districts and the District Education Officer Nakuru District** before embarking on the research project.

On completion of the research, you are expected to submit two copies of the research report/thesis to our office.

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

PAGE 2

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss. ANN KWAMBOKA ORANGI

of (Address) KENYATTA UNIVERSITY P.O. BOX 43844-00100 NBI

has been permitted to conduct research in

Location, STAREHE AND NAKURU

District, NAIROBI AND RIFT VALLEY

Province, on the topic Analysis of infrastructural support and Trainer attributes in Technical Industrial Vocational Entrepreneurship Training (TIVET) Institutions in Kenya.

for a period ending 30TH JUNE 20 10

PAGE 3

Research Permit No. NCST/RRI/12/1/MAS/45

Date of issue 13/04/2010

Fee received SHS 1,000

Applicant's Signature

Secretary
National Council for
Science and Technology

OFFICE OF THE PRESIDENT
PROVINCIAL ADMINISTRATION

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

THE DISTRICT COMMISSIONER
NAKURU DISTRICT
P.O. BOX 81
NAKURU.

Ref. No. ED 12/10 VOL V/138 **14TH May 2010**

Ms. Ann Kwamboka Orangi
Kenyatta University
P.O. Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

This is to authorize you to carry out your research on **"Analysis of infrastructural support and trainer attributes in Technical Industrial Vocational Entrepreneurship Training (TIVET) institutions in Kenya"** for a period ending 30th June, 2010.

Please accord her the necessary assistance.

S. KOSGEY
FOR: DISTRICT COMMISSIONER
NAKURU