DETERMINANTS OF EFFICIENCY IN SKILLS DEVELOPMENT AT TECHNICAL, VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN KISII COUNTY, KENYA

FERDINAND GEORGE MBECHE

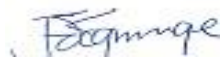
A Thesis Submitted in Fulfilment of the Requirements for the Award of the Degree of Doctor of Philosophy in Economics of Education

UNIVERSITY OF NAIROBI

2023

DECLARATION

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



Ferdinand George Mbeche

E85/55189/2019

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

Dr. Andrew Rasugu Riechi

Senior Lecturer

Department of Educational Management, Policy and Curriculum Studies

University of Nairobi

Prof. Winston Jumba Akala

Professor

Department of Educational Management, Policy and Curriculum Studies

University of Nairobi

DEDICATION

This thesis is dedicated to my wife, Pires Kwamboka and our children, Emmah Nyambare, Steve-Biko, Billington Omanga, James Mbeche, Merab Moraa, and Edwin Misati as well as our grandson, Presnel George Junior, my mother, Teresia Nyanchama, and in memory my late father, Mbeche Onchagwa, my late sister, Verah Nyaboke, and my late mother in-law, Moraa Nyamache for their faith in my abilities, perseverance and endless resilience.

ACKNOWLEDGEMENTS

Glory and honour to God for the gift of life, knowledge and wisdom. I express my appreciation to my supervisors Dr. Andrew Riechi and Prof. Winston Akala for their incredible mentorship and support. They have been a source of inspiration and determination during the various stages of the research process. This thesis has also enormously benefitted from the invaluable and helpful intellectual inputs and companionship of my colleagues at the department of Educational Management, Policy and Curriculum Studies. I would like to specifically thank, amongst others, Prof. Jeremiah Kalai, Prof. Grace Nyagah, Dr. Loice Gichuhi, Dr. Rose Obae, Dr. Lucy Njagi, and Dr. Susan Chepkonga for their immense support throughout the study.

The development of the ideas in this thesis were greatly influenced by interviews and conversations, both formal and informal, with principals, instructors and trainees at TETCs Kisii County government officials, and education policy experts within and outside Kenya. I am grateful for their willingness to discuss their views on issues, openness, guidance and feedback. Special gratitude to the University of Nairobi for financial support in terms of tuition fees and research grant.

Special thanks to my wife, Pires Kwamboka and our children for their love, kindness and encouragement in my journey of life. Lastly, I am also internally grateful to my parents, brothers, sisters, and best friends for their inspiration, mentorship, and support over the years.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ADB	African Development Bank
ASEAN	Association of South East Asian Nations
CEDEFOP	European Centre for the Development of Vocational Training
CIDPs	County Integrated Development Plans
EFA	Education for All
GDP	Gross Domestic Product
GNP	Gross National Product
GoK	Government of Kenya
KCADP	Kisii County Annual Development Plan
KIHBS	Kenya Integrated Household Budget Survey
KNBS	Kenya National Bureau of Statistics
ILO	International Labour Organization
MDGs	Millennium Development Goals
MOEST	Ministry of Education, Science and Technology
MOHEST	Ministry of Higher Education, Science and Technology
NER	National Enrolment Ratio
OECD	Organization for Economic Co-operation and Development
RoK	Republic of Kenya
RoSA	Republic of South Africa
SSA	Sub-Saharan African countries
SDGs	Sustainable Development Goals
TVET	Technical, Vocational Education and Training
VET	Vocational Education and Training
VTC	Vocational Training Centre
USA	United States of America
UNESCO	United Nations Scientific and Cultural Organization
WB	World Bank
WBR	World Bank Report

ABSTRACT

Training is an indispensable process that has potentialities to shape and determine the destiny of a country's social-economic development agenda. Therefore, successful skills training and development programmes by Technical, Vocational Education and Training institutions are integral part of a dynamic labour force as well as a prerequisite for sustainable development. Research evidence demonstrate that there exists a positive correlation between the skills and competencies of the labour force and the long-term growth of productivity of a country's economy. However, Technical, Vocational Education and Training (TVET) institutions in Kenya continue to face challenges of mitigating gaps in skills development process in order to respond to the changing labour market needs. Whereas several studies have focused on investment in the TVET sub sector, none of them have specifically demonstrated how problems facing Vocational Education and Training Centres influence efficiency in skills development in Kisii Country. It is believed that efficiency in skills development is basically dependent on a variety of educational inputs such as physical, material, human, and financial resources. Therefore, the purpose of this study was to examine determinants that influence efficiency in skills development at TVET in Kisii County. The specific objectives were to assess stakeholders' perceptions towards TVET, to evaluate the extent to which an enabling delivery environment, to examine the influence of industry-training institutions linkage and to determine the influence of effectiveness in financing of TVET on efficiency in skills development at VETCs in Kisii County. A correlational research design was employed and data were collected from principals, instructors, and trainees in VETCs as well as county executive members of education, County Directors of Education, and school auditors. This design assisted in collection of data from the population using structured questionnaires, interviews, and document analysis guide. The total sample size was 317 participants. Qualitative and quantitative techniques were employed for data analysis. Results showed that there was a positive relationship between industrial attachment and efficiency in skills development. The implication of the study findings is that there is need is to address the problems facing vocational education and training centres. Therefore, County Government of Kisii and key stakeholders need to urgently institute necessary strategic policy and legal interventions in order to improve efficiency in skills development at VETCs. These measures will have a ripple effect on mitigating development challenges in the county in particular and the country at large. As a result, the fight against poverty, social inequality and unemployment will bear positive outcomes towards enhancing the community's socio-economic development agenda as stipulated in Kenya Vision 2030, East Africa Vision 2050, and Sustainable Development Goals target by 2030.

CHAPTER ONE

INTRODUCTION

1.1Background to the Study

Skill development is considered the most important instrument needed to fuel innovation, promote economic investment, reduce poverty and social exclusion. Hanni (2019) noted that research has demonstrated that investments in human capital by the government, households, and the private sector players have enormous impact on sustainable socioeconomic development. United Nations Educational, Scientific and Cultural Organization ([UNESCO], 2021) defines sustainable development from four mutually inclusive angles; society, environment, culture, and economy. Hence, countries in both the developed and developing world have to make consistent efforts to promote sustainable development in order to reduce poverty rate, create jobs, and build shared prosperity for the current and future generations (World Bank Group, 2014).

In addition, researchers have confirmed that the motive behind investment in education and training by individuals and society is to reap economic and social returns now and in future (Becker, 1964; Shultz, 1993). As a result, over the years, education has been considered to be a fundamental human right that is critical in enhancing socio-cultural and economic development (United Nations Educational, Scientific and Cultural Organization, 1990; United Nations, 2001).

United Nations vision 2030 Agenda for sustainable development is to eradicate poverty and promote economic, social, and environmental progress. Research evidence has demonstrated that, Technical Vocational Education and Training (TVET) provides opportunities for lifelong learning to enhance and accelerate economic growth and

development across the world (Ilokanulo, Ilodibe & Okoye, 2021). In addition, the World Bank (2023) emphasizes that urgent reform of TVET system is needed in most low-income and middle-income countries. This situation continues to be influenced by the projected population growth rates as well as increase completion rates at the primary and secondary sub sectors of education in these countries.

Similarly, the Technical Vocational Education and Training (TVET) sub sector equips individuals with necessary practical skills, competencies, and attitudes that are critically needed in the labour market. In addition, these skills are considered important tools to assist in alleviation of poverty, employment creation and conservation of environment (UNESCO, 2004). Investment in TVET is in line with Sustainable Development Goal 4 (SDG4) whose main focus is to ensure inclusive and equitable quality education, and promote lifelong learning opportunities for all (UNESCO, 2016).

The report on Strategy for TVET (2016-2021), UNESCO noted that it is important for member countries to design sustainable interventions to promote quality and relevance of TVET systems. In addition, UNESCO further confirmed that among its priority targets by 2030 are; to ensure equal access for all women and men to affordable and quality technical and vocational education; and to increase the number of youths and adults who have relevant technical and vocational skills for employment, decent jobs, and entrepreneurship. Adebile and Ojo (2015) confirmed that Vocational and Technical education are engine to economic growth.

According to a UNESCO (2013) report, on report on *Indicators of Skills for Employment and Productivity*, UNESCO emphatically pointed out that adequately trained and qualified human capital contributes significantly to increased productivity, efficiency, and economic returns. In addition, research evidence confirms that the aim

of TVET is to promote access, equity, and quality by enhancing competitiveness and entrepreneurship. The training is aimed at enhancing responsible citizenship, environmentally sound development and social transformation (Ilokanulo, Ilodibe & Okoye, 2021).

In this regard, TVET institutions should focus on the production of graduates with employable skills needed in modern sector knowledge economy and entrepreneurship. In a report on *Learning to Realize Education's Promise* (World Bank, 2018) confirmed that, technical and vocational skills are required in almost 80% of occupations in different sectors in development. Therefore, the TVET sector continues to play a vital role in the production of skilled human capital needed in various sectors of a country's economy.

A World Bank study conducted on '*Skills for Growth and Equity in Thailand* revealed that workforce skills development is critical in improving economic growth. Industries with high numbers of skilled workers have expanded their role in the economy, contributing to the demand for skills (World Bank, 2012). However, in spite of TVET's role in skills development, it is often considered as 'second best'. It is frequently portrayed as inferior and less prestigious compared to academic education (UNESCO, 2015). The implication in this context is that access to quality technical, vocational education and training education (TVET) is an important enabler for realization of individual and societal goals and aspirations.

Policy briefs by the African Development Bank (ADB), revealed that the government of South Korea between 1970 to 1990 initiated and strengthened policy incentives to the private sector that were aimed at attracting private companies to invest in the TVET sector in order to train skilled workers. Consequently, the initiatives played a part in enhancing the prestige of vocational education, secondary vocational and technical

training. As a result, 21 Meister high schools were opened first in 2010, with 38 in operation in 2013. The purpose was to motivate students to view Meister schools as a high-status (ADB 2013).

In this regard, it is important for countries to consider where skills are most needed in the various sectors of the economy. Similarly, the practical knowledge and skills that individuals have acquired must correspond to those required in the labour market. In essence, the TVET sector should promote quality training to ensure that the supply of skilled human capital meets the changing labour market needs. In a report on *Economic Return to Investment in Education and TVET, (*UNDP) demonstrates that investment in skills development is critical in enhancing the production of skilled and knowledgeable graduates needed in modern sector firms and micro and small enterprises. Consequently, it is imperative for countries to find suitable and sustainable strategies for mobilization of training inputs such as infrastructural facilities, instructional materials, tools and equipment, and human and financial resources.

Available evidence shows that developed countries have made huge financial investments in the TVET sector. This strategic intervention has immensely contributed to the development of qualified and relevant human capital needed to stimulate socioeconomic development. The countries include United States, Canada, Germany, Belgium, England, Finland, China, India, South Korea and Singapore. The countries have adopted investments in TVET as a powerful strategy of supplying the economy with skilled human capital (citation). As a result, the countries have achieved remarkable progress in economic growth and in reduction of poverty, social inequality, and unemployment (Cedefop, 2013; European Commission, 2002). It can be deduced that provision of technical and financial support is critical to ensure that the institutions have the required education inputs to promote quality training. It is clear that most

developed countries consider skills development to be the key to unlock and enhance sustainable development.

Given that skills development promotes economic development, the TVET trades and courses are designed to provide individuals with a variety of skills and competencies required in various occupations. In a report on *Learning to Realize Education's Promise* (World Bank, 2018) confirms that vocational and technical skills are required in almost 80% of occupations and employment related opportunities. Similarly, the TVET graduates are absorbed into the labour market faster than those with general higher education. Finally, graduates with TVET qualifications are more likely to get employment opportunities immediately after graduation compare to those with general education with same qualifications (World Bank, 2018)

Further, in view of the role of TVET in employment, a study conducted by UNDP (2019) on *the relationship between the economic returns of investments in education and technical vocational education and training* revealed that a TVET graduate with a bachelor in civil engineering earn an average monthly wage of US$467 whilst a graduate with general higher education earns an average monthly wage of US$573. The IAP (2017) conference proceedings revealed that the Association of South East Asian Nations (ASEAN) member countries have made a radical shift of placing TVET to the mainstream of education. Each member country has its strengths and sectors that contribute to its GDP and employment.

On the other hand, according to the World Bank (2018) report, in Brazil and Indonesia, technical and vocational trained workers have higher chances of accessing well paid employment opportunities than workers with general secondary education. This evidence supports observations by Lewin, (2008) and Monika (2012) who argue that

global technological and economic changes demand for more and better skilled human capital.

Further, in a report on *Skills for Growth and Equity in Thailand* (World Bank, 2012) confirms that that the country has made deliberate efforts to enhance the skills of the labour force as a key strategy to embrace the knowledge-intensive and creative economy. The implications of these studies is that the quality of the training in technical and vocational institutions is critical in enhancing economic returns to individuals and society in general. On the other hand, it is important to employ cost effective and performance-oriented financing policy interventions to promote quality skills development.

A study conducted by Audu at. El. (2013) on *Provision of Workshop Tools and Equipment* confirms that TVET is globally acknowledged as strategic training that can enhance sustainable development. In this context, private and social benefits that accrue from investments in the TVET sector can only be enjoyed if the quality of skills developed meet the labour market needs. Therefore, this situation calls for creating an appropriate instructional resources, workshop tools and equipment that could be essential to promote, nurture and develop the skills and competencies that are needed in the labour market through effective implementation the TVET curriculum.

These findings are in agreement with Rothschild (2013) and Azemati et al. (2013) who argued that TVET institutions need to have adequate infrastructural facilities, instructional materials, tools, equipment, human and financial resources m to enable them to have the capacity to nurture and develop practical knowledge skills and competencies. Countries such as Canada, Colombia, India and Israel have made remarkable efforts to leverage private financing to channel resources to the provision of social services like education. Hence, these efforts have led to the emerging of social

impact bonds and human capital performance bonds. In such cases, the governments allow the private sector players to create social impact through their investments in education and TVET while realizing economic or financial returns Similarly, a study conducted by UNDP (2019) on *Economic Return to Investment in Education and TVET* revealed that TVET has been placed at the centre of Cambodia's development agenda. Thus the government and development partners have made concerted efforts to fund this sector with an aim of increasing awareness among high school students.

United Nations vision 2030 Agenda for sustainable development is to eradicate poverty and promote economic, social, and environmental progress. As a matter of fact, Technical vocational education and training (TVET) provides opportunities for lifelong learning to enhance and accelerate economic growth and development in Africa and across the world (Ilokanulo *at el*, 2021). However, studies have shown that in many Sub Saharan Africa countries the TVET sector is underfunded. Uzoagulu (1993) study in Nigeria revealed that insufficient budgetary allocations by the Federal government to the TVET sector has been one of the cause of inadequate workshop facilities. Hence, practical skills cannot be acquired in training institutions that are characterized by inadequate non-functional workshops without appropriate tools, equipment and machines.

These findings are further supported by Adekunle that was study conducted in 2019 *on funding effectiveness of TVET in Nigeria* which established that the country will continue to face problems in addressing unemployment and bridging the skills gaps unless special attention is given the provision of quality education especially TVET (Adekunle, 2019). Therefore, it is explicit that the provision of financial resources is paramount to enable vocational training institutions to acquire the necessary facilities and instructional materials required to improve the quality of the graduates.

On the other hand, a survey conducted by World Bank (2012) in 2007 in Thailand on *supply of skilled labour* force showed that the country's business firms spent an average of seven (7) weeks to find a professional worker due to an acute shortage and mismatches of skilled labour. The survey also revealed that the poor linkage between industry and TVET institutions adversely affected the supply of qualified skilled labour force. This shows that linking training centres with industry is critical in addressing skill shortages and strengthening quality in skills development in the country.

In addition, a World Bank study conducted in 2012 on Skills for Growth and Equity in Thailand revealed that workforce skills development is critical in improving economic growth. Industries with high numbers of skilled workers have expanded their role in the economy, contributing to the demand for skills. However, in spite of TVET's role in skills development, it is often considered as 'second best'. It is frequently portrayed as inferior and less prestigious compared to academic education (UNESCO, 2015).

The African Union (AU) report on *strategy to revitalize technical and vocational education and training in Africa* indicated that European countries such as United Kingdom and Belgium, 50% of the learners in upper secondary education are introduced to some vocational education and training (VET). However, countries in Africa such as Kenya and Zambia it is less than 4% who are introduced to VET (AU, 2007). In Nigeria, the TVET sector is also negatively perceived major stakeholders. As a result, individuals with TVET qualifications tend to have a low prestigious position in society (McGrath, 2005). These findings are in agreement with a study conducted on *TVET and human resources development in West Africa* by Osuji, which revealed that most parents make decisions to have their children to enroll at TVET institutions only

when they fail to gain entry for university education. In this regard, TVET is considered to be inferior to general education (Osuji, 2003).

Studies have also shown that majority of TVET institutions in Sub Saharan Africa countries are characterized by inadequate physical facilities, resources, tools and equipment. In addition, these institutions, use old-fashioned curriculum that is not responsive to the dynamic labour market (McGrath, 2005; Yihunie, 2011; African Union, 2007). In a study conducted on *Vocational education and training in Southern Africa* by McGrath revealed that key stakeholders such students and parents often viewed TVET to be of low prestige (McGrath, 2005). Similarly, a study conducted in Ghana revealed that the TVET sector over the year has been held in low esteem (Council for Technical Education and Training, 2012). Consequently, the negative perceptions towards TVET seems have adversely affected efficiency in skills development in most African countries.

This finding of TVET being considered to be inferior is in confirmed the study conducted on *Vocational education and training in Southern Africa* by McGrath in 2005 which revealed that students and other key stakeholders often viewed TVET to be of low prestige. Similarly, in Ghana, the sector has been held in low esteem (COTVET, 2012). The status of the training has been attributed to the use of insufficient resources, facilities and equipment. Most TVET institutions also use old-fashioned curriculum that is not responsive the dynamic labour market. (McGrath, 2005; Yihunie, 2011; African Union, 2007).

A study conducted on *trends and issues in technical and vocational education and training by* Oketch in 2007 in some selected countries in Africa found out that governments are the major financiers of TVET programmes. The study further noted that provision of adequate qualified staff, instructional materials, and equipment depend

on adequate funding of the TVET sector. However, a study conducted by Monika in 2012 on *Technical and Vocational Education and Training* showed that many the TVET sector is underfunded in majority of countries in Sub Saharan Africa. The findings further revealed that low public sector budgets for skills development have made it difficult to provide adequate human resources, physical infrastructural facilities, and training equipment

In addition, a review of *Technical and Vocational Education and Training* by Abrahart, 2003 in Egypt revealed that TVET was financed by the government. The review further revealed that the unit cost approach was used to allocate funds to different TVET institutions. However, it was noted that inadequate funding was one of the major challenges facing the TVET sector. Consequently, limited recurrent budgets made it difficult for VETCs to employ and retain suitably qualified staff, to purchase consumables and to maintain equipment.

The Government of Kenya recognizes the strategic role the education and skills development play in overall national development. It is against these background that the national education sector plans, policy documents and sessional papers are anchored in the Education for All (EFA) Goals, Millennium Development Goals (MDGs), Sustainable Development Goal-4, *Constitution of Kenya 2010*, and *Kenya Vision 2030.* In this regard, the Government has made considerable legal and policy commitments to make investments in the TVET sector with an aim of realizing the national development priorities.

The *Kenya Vision 2030* is anchored on the premise that the country need to become a newly industrialized middle-income country providing high quality of life to all

citizens. This national economic development blueprint places a lot of premium on the strong relationship be education and labour market, and the need to a pool of human capital with requisite knowledge, skills and competencies. Consequently, the vision underscored that strategic investment in skills development is critical in the government's efforts towards revamping and revitalizing the industrial, manufacturing and agro- processing sectors of the economy (GoK 2008).

As a result of this commitment, the government of Kenya has made deliberate efforts to address issues and challenges related to access, quality, and relevance as well development of entrepreneurial, science and technology related skills. Hence, the TVET institutions have the mandate to channel out adequate and skilled middle level professionals to enable the country become a middle level income country by 2030 as envisioned.

On the other hand, the fourth schedule of *The Constitution of Kenya 2010,* the Vocational Training Centres, formally referred to as village polytechnics and home craft centres were part of the devolved function or power to the County Governments. In this regard, the National Government is in charge of policy, quality and standards, and the technical function whereas the county government is to ensure effective operationalization and proper functioning of the Vocational Training Centres. With these legal and policy frameworks, in the transfer of function or power: (a) arrangements shall be put in place to ensure that resources for the performance of the devolved functions are transferred; and (b) that constitutional responsibility for the performance of the function or exercise of the power shall remain with the county government.

In addition, strategic investment in skills development is within the framework of the National Education Sector plan (NESP) 2013 to 2017. The plan underscores that the youths and adults will receive quality education and lifelong services which are relevant and responsive to the changing labour market needs (RoK, 2014). Therefore, in order to enhance the effective realization of the national development goals and priorities, it is critical to have a strong focus on providing opportunities for access to technical, vocational and other specialized skills for all.

On the education reform implementation agenda, the NESP 2018 to 2022 focuses on improving access and participation, equity and inclusiveness, quality and relevance. This strategic plan confirms that the national government allocated about 5.3% of the GDP to the education sector. This commitment by the government led to a remarkable increase in the number of TVET institutions from 700 in 2013 to 1,300 in 2018. Similarly, enrolment grew by 92.5% from 148,009 in 2013 to 363,884 in 2018. Similarly, over the same period, enrolment in Vocational Training Centres alone grew from 71,569 in 2013 to 114,484 in 2018. These statistical information demonstrates the government's commitment towards promoting socioeconomic development through strategic investments in skills development. However, budgetary allocations to the TVET sector has been inadequate to meet the demands of quality training.

The *sessional paper No. 1 of 2005 on Education, Training and Research* emphasized on improving access, equity, quality and relevance, governance and management. However, the paper pointed out that the subsector faced a number of challenges such as inadequate facilities and lack of effective institutional capacities to deliver quality training. Consequently, the government made a commitment to conduct frequent labour market tracer studies and training needs assessment in partnership with industry

with an aim of enhancing human capital development and provision of necessary feedback to assist refocusing of the curriculum to meet the changing labour market needs. Similarly, ensure on and off-the- job training is institutionalized in order to improve the quality of teaching-leaning process. More importantly, to ensure mandatory on-job training to improve the standards and relevance of TVET. However, the implementation process has been inadequate and infrequent.

On the other hand, the promulgation of the *Constitution of Kenya 2010* recognizes education and training as a basic human right. Articles 174, 175, 176, 189 and schedule 4 of the constitution has provisions that guide policy on devolution, access, equity and quality at all levels of education and training. In spite of the reforms initiated through Sector Wide Approach to Planning as envisaged in the sessional paper and provisions in the constitution, the country hasn't been able to have adequate skilled human capital in critical areas of the economy.

Similarly, *Sessional paper No. 1 of 2019* confirms that the objective of Kenya vision 2030 is to make Kenya 'a newly industrialized and middle income country, providing high quality life to the citizens by 2030'. For this vision to realized, development economists assert that industrialization and technological progress can be achieved in a country with adequate and right ratio of engineers, technologists, technicians, crafts-persons and artisans (operators). The ideal ratio in most developed is 1:2:4:16 whist in a typical developing country like Kenya is 1:3:12:60. However, *Sessional paper No. 1 of 2019* demonstrates that the TVET sub sector has not been able to produce enough and well trained middle level human capital needed to ensure effective execution of the engineering and technology function within the Kenyan economy. Trends in higher education since late 1990's about 10 % of the secondary school graduates join degree

programmes. TVET institutions have the potential to offer various training opportunities to these graduates. However, the capacity of these institutions to provide training opportunities for all deserving potential trainees' is wanting (RoK 2009; MoEST 2012; RoK 2014).

A number of Ministry of Education reports referred herein have revealed the available most TVET institutions have inadequate training facilities, irrelevant curriculum and financial resources to meet the demand of potential trainees. On the other hand, the conversion of middle level colleges and Technical institutions into universities to offer degrees has complicated the situation further over the years. These government reports further revealed that limited efforts have been invested in translating TVET policy and legal initiative into strategies in order to promote access and quality training. The budgetary allocations to the TVET sector has been inadequate to meet the demands of quality training.

On the other hand, the TVET Policy of 2012 and the TVET Act of 2013 focus on expansion of development of a national skill strategy and provision of financial resources to promote the image of the training in order to improve participation rates and quality training. However, many parents prefer general education to vocational education and training (MoE 2012; MoEST 2012). A survey conducted on enrolment in youth polytechnics in Kisii Central District revealed majority of the institutions experienced low enrolment rates because of the negative attitude towards TVET by the stakeholders (by Moranga at el, 2012).

In addition, a large numbers of youths in the county have not enrolled in TVET institutions in Kisii County. In Kisii County, a number of the challenges continue to negatively affect the TVET ecosystem in many VTE institutions making it difficult for

the development of employable skills. A baseline survey conducted on *strengthening vocational education and training in Kisii County* also found out that majority of the VTCs had inadequate human and financial resources, and dilapidated infrastructural facilities (Riechi et al, 2014). In spite of these challenges, the county in its County Integrated Development Plan (CIDP) 2013-2017 identified investment in TVET as a top priority for mitigating widespread poverty and youth unemployment.

Further, a review of the *2015/2016 Kenya Integrated Household Budget Survey* (KIHBS) report revealed that Kisii County is ranked to be one of the poorest counties in Kenya with a poverty index of 44.5% compared to the national figure of 32%. The *2020/2021 Kisii County Annual Development Plan* report revealed that of poverty and unemployment remain the main challenges. However, in spite of these evidences, skills development was not one of the five strategic areas that was identified in the *2020/2021 Kisii County Annual Development Plan* as a key driver to spur economic growth to enhance socioeconomic development (County Government of Kisii, 2019).

Similarly, according to the 2015/16 Kenya Integrated Household Budget Survey (KIHBS), the Kisii County's dependency ratio stands at 84.7 percent compared to the national ratio of 81.6 percent. In addition, the projected productive population, dependency ratio and fertility rate based on the 2019 Population and Housing Census Report (PHCR), Kisii county population is heavy at the bottom of the population pyramid (KIHBS, 2019). Consequently, many primary and secondary school well as vocational education and training institutions will be required now and in the future. The Kisii CIDP's (2023-2027) objective is to increase access to quality training for all. However, the plan has identified inadequate infrastructural facilities, human, material and financial resources as well as tools and equipment has

major challenges to achieve this noble objective (County Government of Kisii, 2023). Table 1.1 presents the population projections by broad age groups.

Table 1.1 Population Projections by Broad Age Groups in Kisii County

Age Group	2019 Census			2022 Projections			2025 Projections			2027 Projections		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Infant population (<1year)	13,498	13,374	**26,922**	-	-	-						
Under 5 Population	71,813	71,694	**143,507**	75,578	75,742	**150,321**	74,338	75,039	**149,376**	72,690	73,366	**146,056**
Pre-School (3-5 years	46,660	46,747	**93,437**									
Primary School (5-14years)	184,147	183.189	**367,366**	141,743	143,960	**285,703**	142,056	145,340	**287,396**	142,449	146,216	**288,665**
Secondary School (151 9years)	75,142	75,025	**150,167**	68,433	69,345	**137,778**	67,162	69,142	**136,304**	66,860	68,741	**135,601**
Youth (15-29 years)	160,010	183,755	**343,765**	197,708	196,691	**394,399**	196,302	198,373	**394,675**	195,524	192,137	**387,661**
Women of reproductive age (1549years)	0	295,684	**295,684**	0	365,342	**365,342**	0	378,013	**378.013**	0	383,867	**383,867**
Economically Active population (15-64 years)	324,189	531,155	**855,344**	417,950	419,584	**837,534**	433,432	438,991	**872,423**	442,552	448,556	**891,108**
Aged 65+	25,080	32,383	**57,463**	27,408	31,209	**58,617**	26,810	34,366	**61,176**	27,109	37,064	**64,173**

Source: KNBS, 2022

The County had 367,366 persons of primary school going age in 2019 representing 29% of the total county population. The number is projected at 287,396 and 288,665 in 2025 and 2027 respectively. Population of secondary school going age of 15-19 years was 150,167 persons in 2019 representing 12 percent of the total County population. The population is projected to grow to 136,304 and 135,601 persons in 2025 and 2027 respectively. There is a need therefore to invest in school learning infrastructure to facilitate the achievement of basic and higher education target.

Additionally, information provided in Table 1.2 also reveal that the county would need to plan for more schooling opportunities to cater for the projected population growth.

Table 1. 2: Projected Demographic Dividend Potential in Kisii County

Category	2019	2023	2024	2025	2026	2027
Population Size	1,266,860	1,344,907	1,357,639	1,370,372	1,380,995	1,391,618
Population below 15 (%)	40.3	32.4	32.2	31.9	31.6	31.2
Population 15 – 64 (%)	55.1	63.1	63.4	63.7	63.9	64.2
Population above 65 (%)	4.53	4.42	4.44	4.46	4.54	4.61
Dependency Ratio	81.4	58.4	57.7	57.1	56.5	55.9
Total Fertility Rate	2.8	2.7	2.7	2.7	2.7	2.6

Source: KNBS 2019 PHC/NCPD 2022

In 2019, the productive population (15-64) constituted 55.1 percent of the total county population, and the ratio is expected to average 63 percent of that total population over the Plan period. In addition, the fertility rate in the County is estimated at 2.7 percent compared with the national figure of 3.4. With the current trends in the County, demographic window for Kisii is expected to open after 2030 (Kisii County Government, 2023). Consequently, for the County to realize its demographic dividend, more investments will be required in the education and training sector. In this regard, there was need to conduct an in-depth study to mitigate the stakeholders' negative attitudes towards TVET, deficits in infrastructural facilities and financial resource problems prevalent in the VETCs in Kisii County.

1.2: Statement of the Problem

The stakeholders' negative perceptions towards TVET in Kisii County have adversely affected access and participation rates in majority of the vocational training institutions. However, there is scanty evidence to show the existence of strategic action plans to mitigate these negative perceptions by the key stakeholders in the county. Similarly, there are deficits in budgetary allocations by the county government to Vocational

Education and Training Institutions which has negatively affected both the recurrent and capital expenditures. As a result, the VETCs lack the financial muscle to provide new infrastructural facilities as well as improve dilapidated ones, capacity to provide sufficient instructional resources, tools, and equipment needed to ensure quality training.

Consequently, the VETCs in Kisii County fall far short of meeting the minimum thresholds for promoting efficiency in skills development. Unless appropriate policy and legal interventions are implemented to mitigate problems affecting skills development at VETCs, this situation will worsen, resulting in more educational wastage, unemployment, and further widening of income and social inequalities gap.

In this respect, the current study was informed by the fact that there were limited in-depth studies to inform strategic policy and legal interventions to address the existing problems bedevilling vocational education and training. The study mainly focused on determinants that influence efficiency in skills development in Kisii County in Kenya. Hence, data on stakeholders' perceptions towards TVET, delivery environment, industry-institution linkages, and financial effectiveness of VETCs were collected and analysed. The aim was to provide recommendations that could assist in enhancing efficiency in development of skills at VETCs in the County.

1.3 Purpose of the study

The purpose of the study was to examine determinants that influence efficiency in skills development at Technical Vocational Education and Training Centres in Kisii County, in Kenya.

1.4Objectives of the Study

The study was guided by the following specific objectives:

i. To assess stakeholders' perceptions towards TVET on efficiency in skills development at VETCs in Kisii County.
ii. To evaluate the extent to which an enabling delivery environment affects efficiency in skills development at VETCs in Kisii County.
iii. To examine the influence of industry-training institutions linkage on efficiency in skills development at VETCs in Kisii County.
iv. To determine the influence of effectiveness in financing of VET on efficiency in skills development at VETCs in Kisii County.

1.5 Research Questions

The following questions guided the study:

i) How do the stakeholders' perceptions towards TVET affect efficiency in skills development at VETCs in Kisii County?
ii) To what extent does enabling delivery environment affect efficiency in skills development at VETCs in Kisii County?
iii) How do industry-training institution linkages affect efficiency in skills development at VETCs in Kisii County?
iv) To what extent does effectiveness in financing of VET affect efficiency in skills development at VETCs in Kisii County?

1.6 Significance of the Study

Governments both in the developed and developing countries have over time have gradually restructured their respective TVET systems to become more demand-driven. The primary goal is to mitigate the challenge of skill gaps. Generally, the findings could provide evidence-based information which policy makers and practitioners to use in designing and developing innovative and proactive vocational education and training policies that may improve the overall efficiency of skills development processes in

various vocational training institutions. Consequently, these policies would provide useful insights to various key stakeholders at the sub county and county levels, such as educational planners, economists, and policy experts, to design and implement appropriate approaches and strategies to improve the anticipated overall training outputs and outcomes.

In the same vein, the findings would be instrumental to assist Vocational Education and Training Centres in particular, and the county government in general to develop innovative and proactive techniques to address the specific problems that informed the study. First, the county government in partnership with other key stakeholders could upscale sensitization and advocacy campaign programmes to change the negative perception toward TVET. Consequently, VETCs could see the need of intensifying their efforts in branding, marketing, and advertisement of their programmes and courses in order to change the existing stakeholders' negative perceptions. In addition, these institutions would create awareness programmes to sensitizing the community members on the importance of pursuing VET related courses, programmes, and careers. Similarly, skills competition events and promotional campaigns could be mounted at the Ward, County, Sub County and County levels.

Secondly, the County government in consultation with VETCs and other key actors would use the specific findings to design appropriate and sustainable policies on infrastructure development, provision of human and material resources, equipment, tools, and facilities in all VETCs. Thirdly, the County government could use the findings to institute clear policy and strategy framework to address the weak industry-institution partnerships to assist in blending theory and practice in skills development.

Consequently, the VET institutions are to greatly benefit if adequate formal industry-training linkage structures and engagements are instituted and implemented. As a result, through well-defined structures, TVET institutions would be able to know the changing labour market needs and emerging concerns of industry. Therefore, the training institutions would find need to strategically position themselves in order to enhance the quality and relevance of their graduates in meeting the needs and requirements of the dynamic labour market.

In addition, the various actors in industry would find potential opportunities to interact with key stakeholders in the VET subsector. This kind of engagement would be critical in coming up with initiatives that could enhance, strengthen, and sustain meaningful partnerships between the training institutions and industry. Some of the initiatives could include: joint curriculum review platforms; holding of worships, seminars, and exhibitions; and joint skills competition programmes. Similarly, formal interaction and engagement between industry and training institutions will make it possible for industry to support activities, programmes and projects that are geared towards improving the quality of skills in these training institutions. Such support can be in a form of provision of modern training equipment, putting up physical infrastructure such as workshops, and providing opportunities for industrial attachment for trainees.

Fourth, the County Government and Board of Management (BoM) of training institutions would use the findings to initiate and strengthen revenue diversification systems. In addition, the findings would assist in developing robust capacity building initiatives on financial management to address the existing gaps in the VET sub sector. As a result, it could be possible to strengthen financing synergies with private sector

actors, non-governmental and philanthropic organizations, financial institutions, influential infibulations and foundations, and local and international development partners.

Lastly, it is believed that the study findings would also generate appropriate information and knowledge on skills development for policy debate and dialogue between policy makers and various stakeholders in the TVET sector. This development could assist them to design appropriate policy initiates that may assist in enhancing efficient skills development in the county. This would lead to useful insights that could assist VET institutions to review, repackage, and rebrand training courses in order to improve their image and relevance. Such arrangements are likely to improve enrolment and participation rates of trainees in technical training institutions in the county. Consequently, the study findings would contribute to the existing pool of knowledge in economics of education on policy and strategy in skills development in the TVET sector with a view of promoting knowledge exchange and collaborative research on skills development.

1.7 Limitations of the Study

Limitations are conditions beyond the control of the researcher and may have restrictions on the conclusions of the study (Keith, 2009). One of the limitations was related to study topic given that there was scanty data on determinants of efficiency in skills development at VET institutions in Kisii county. To ensure that the scarcity of data did not compromise interpretation of results, efforts were made to utilize related literature from other counties in Kenya and other countries around the world.

Secondly, given that data was collected during the covid-19 period, a lot of time was taken to reach out to all the sampled respondents. Furthermore, some of them were quite uncooperative. However, the data collection period was extended to ensure that the

required data was gathered from all respondents. Similarly, deliberate efforts were made to create a good rapport with the respondents by demonstrating the purpose of the study. In addition, the informants were assured that the information gathered would only be used for academic purposes. As a result, it became possible to gain their confidence throughout the data collection period.

1.8 Delimitations of the Study

The scope of the study was delimited in a number of ways. First, the TVET sector is broad with many and various training institutions in the 47 Counties in Kenya. In addition, the training takes place across a wide range of settings, which include: schools, public, and private vocational institutions and institutes, higher education institutions and workplaces in both the formal and informal economies. Given the large number of potential participants in the study population, the scope of the study was limited to the 41 functional vocational education and training institutions in Kisii county, which is one of the 47 Counties in Kenya. This delimitation was important since it made it possible to conduct an intensive and comprehensive investigation of the research problem.

Similarly, Kisii county was selected because of the large number of untrained primary graduates who could not transit to secondary schools' education, and secondary graduates who were not able to pursue university education. Additionally, the county is classified as one of the poor counties in Kenya according to the *2015/2016 Kenya Integrated Household Budget Survey*. On the other hand, efficiency in skills development in VET institutions is influenced by a wide range of factors and issues. To conduct a comprehensive and intensive investigation, the study focused on four key

issues: stakeholders' perception towards TVET; enabling delivery environment; industry-training institutions linkages; and effectiveness in financing VET institutions.

1.9 Basic Assumptions of the Study

The study made the following assumptions:

i) That all the respondents provided reliable and truthful responses.

ii) That the documents from training institutions and the County Government contained all the requisite and necessary data.

iii) That training is not a magic potion against unemployment and poverty.

iv) Investment in vocational skills development is instrumental in improving productivity and realization of equity goals.

v) Bridging skills gaps could be a powerful strategy in mitigating prevailing youth unemployment and reducing poverty.

1.10 Definition of Significant Terms

The following terminologies were contextually defined in line with their usage in the current study.

Delivery environments refers to factors such as availability of human resources, infrastructural facilities, equipment, and key stakeholders that are likely to affect the process of skills development.

Efficiency refers to a process of optimizing the scarce educational inputs in order to maximize educational outputs and outcomes in the form of qualified and skilled human capital.

Efficiency in financing refers to execution of tasks and assignments in a timely and cost effective manner through using clearly defined and standardized process

Human capital development refers to the building up of individuals' abilities through acquisition of knowledge, skills, competencies, and attitudes in order to be more productive, responsive, and efficient in service delivery.

Infrastructural development refers to provision of physical facilities in technical, vocational education, and training institutions

Quality refers to the totality of a training of the course of study to meet the knowledge, skill, competencies and attitudes that are needed by individuals and in the world of work.

Skills development refers to acquisition of the practical competencies, know-how, skills, attitudes, and positive attributes necessary to perform a trade or occupation in the labour market and society.

Technical Education refers to training aimed at preparing individuals for middle-level positions, such as technicians, technologists, middle -level management personnel.

Training refers to a systematic method of transmission and acquisition of appropriate parts of knowledge, skills, values and attitudes by individuals;

Vocational Training refers to acquisition of the practical lower skills by skilled or semi-skilled workers in various trades for positions below the technician level or its equivalent.

1.11 Organization of the Study

This research has been organized in five chapters. Chapter one focuses on: background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study, and definition of significant terms.

Chapter Two contains theoretical and empirical review of literature, the theoretical framework, and the conceptual framework of the study. The sub sections reviewed in

this chapter include: an understanding of TVET; rationales for investment in TVET; stakeholders' perceptions towards TVET; enabling delivery environments and efficiency on skills development; industry-institution partnerships and efficiency in skills development effectiveness in financing and efficiency in skills development; and summary of reviewed studies

Chapter Three presents the research methodology; research design, target population, sample size and sample selection, data collection instruments, instruments validity and reliability, data collection procedures and data analysis techniques. Chapter four presents analysis and interpretation of the findings. Finally, chapter five provides the summary of the findings, conclusion, recommendations and suggestions for further research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The purpose of the study was to examine determinants that influence efficiency in skills development in Technical Vocational Education and Training in Kisii County in Kenya. This chapter covers review of related literature under the following sub headings: an understanding of TVET; rationales for investment in TVET; stakeholders' perceptions towards TVET; enabling delivery environments and efficiency on skills development; industry-institution partnerships and efficiency in skills development effectiveness in financing and efficiency in skills development; summary of reviewed studies; theoretical framework; and conceptual framework.

2.2 An Understanding of Technical Vocation Education and Training

Technical Vocational Education and Training (TVET) provides opportunities for lifelong learning to enhance and accelerate economic growth and development. (Ilokanulo, Ilodibe & Okoye, 2021). Therefore, it is considered to be a critical tool to enhance socio-economic development for any country (Zite & Deebom, 2017). In this regard, TVET equip the youth and adults with practical knowledge, employable, demonstrative and entrepreneurial skills needed in various sectors in development. As a results, equips them the capacity to handle change and to engage in both local and global communities.

On the other hand, Ilokanulo, Ilodibe & Okoye, (2021) confirmed that in the rapidly changing knowledge economy, TEVT empowers persons and increases their efficiency and productivity, sustainable livelihoods, and socio-economic development. Their study further noted that The main target of any formal or informal TVET program is to

lead trainees to acquire the practical skills, know-how, and understanding, needed to enter and progress in a particular occupation, trade, or group of professions.

UNESCO (1984) defined Technical and vocational education and training (TVET) the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupation in various sectors of economic life. In the same vein, The UNESCO in its global strategy for TVET (2016-2021) affirmed that, the training focuses on enhancing employable and entrepreneurial skills for the youth as well as promoting equity and gender equality (UNESCO).

In addition, The UNESCO's global Strategy for TVET (2022–2029) takes into account the path to recovery, resilience building and reimagining of education and training. The strategy also pays special attention to the critical role that TVET will play nationally and globally (UNESCO, 2022). TVET helps to develop skilled workers who have prerequisite technical, scientific and entrepreneurial knowledge and employable skill (Simiyu, 2009, Eyster, 2009).

In this context, considerable attention to technical and vocational skills development is critical in enhancing socio-economic development. Consequently, affordable, accessible, quality TVET systems are pivotal the acquisition of requisite and practical skills for employment, decent work, and entrepreneurship. a long-life learning process whose primary objective is to enable individuals to acquire prerequisite skills, knowledge and attitudes that are necessary in enhancing socio-economic transformation of community in particular, and society in general.

Training plays a critical role in human capital formation for sustainable development. This view is adequately supported by the Word Bank (2018) report on *'Learning to Realize Education's promise'* which clearly points out that young people who leave

formal education usually have three pathways to skills acquisition: on-job training opportunities which is meant for those who directly join employment after school; short-time training whose objective is to assist school leavers to acquire skills before joining employment; and pre-employment TVET pathway which targets a group of individuals who forgoes employment to acquire fundamental skills.

A study conducted on financing of education and TVET in Latin America and the Caribbean by Hanni (2019) notes that formal TVET as technical and professional programmes offered within the formal education system, which lead to degrees or other types of certifications. Non-formal TVET refers to training and education offered outside the formal educational. Informal TVET is principally the domain of learning-by-doing skills acquisition. Formal TVET has a well-structured curriculum, specific duration and certificates are awarded upon successful completion of the course. The Non-formal TVET system mainly focuses on acquisition of employability skills by a person, but not necessarily award of a certificate as is the case with formal TVET. Informal TVET system concern with the experience a person can gain from practicing a trade or by working with others in order to acquire necessary skills, competencies and attitudes can lead to productivity of the person learning.

2.3 Rationales for Investment in TVET

TVET is expected to assist youths as well as adults develop the necessary skills they need for employment and entrepreneurship. In addition, the training is critical in enhancing equitable and inclusive economic growth. Similarly, TVET is expected to assist in supporting transitions to digital and green economies for environmental sustainability (UNESCO, 2022). The EFA Global Monitoring Report 2005 on *Education for All* revealed that Technical, Vocational Education and Training is the master key that can assist to mitigate poverty, promote environmental conservation,

improve the quality of life for all and assist in enhancing sustainable development. The training is therefore considered to be instrumental in stimulating a country's socio economic development through the provision of skilled, productive and efficient human capital (UNESCO, 2004). This view is further supported by The UNESCO (2013) conceptual framework on *Indicators of Skills for Employment and Productivity* which emphasizes that training institutions have to adequately equip trainees with relevant employability skills.

Furthermore, the Sustainable Development Goal 8 (SDG8) underscores the importance of promoting sustained, inclusive and sustainable economic growth. This goal depicts that countries to work towards the revitalization and embracing investment in the TVET sector as a key strategy to realize full and productive employment and decent work for all. Therefore, an appropriate delivery environment is essential to enhance effective implementation the curriculum by the TVET institutions so that the graduates acquire the practical skills, scientific knowledge and attitudes needed in various sectors of the economy for sustainable development.

Technical, Vocational Education and Training offers students to transition from school to the labour market as well as retooling those adults who are working. Similarly, investments in TVET provide opportunities to women, youth, adults and vulnerable citizens to acquire fundamental practical skills, competencies and attitudes required in the changing knowledge based economies. Hence, the main justification for governments to invest in TVET founded on the premise that it one of the key focus of the Sustainable Development Goals (Hanni, 2019).

In addition, the UNDP (2019) report on *Economic Return to Investment in Education and TVET* investment indicates that the production of knowledge, practical skills,

values and attitudes is critical in modern sector firms, micro and small enterprises. According to the World Bank (2018) report, in Brazil and Indonesia, technical and vocational trained workers have higher chances of accessing well paid employment opportunities than workers with general secondary education. This evidence supports observations by Lewin, (2008) and Monika (2012) who argue that global technological and economic changes demand for more and better skilled human capital. In the same vein, World Bank (2012) report on *Skills for Growth and Equity in Thailand* notes that the country has made deliberate efforts to enhance the skills of the labour force as a key strategy to embrace the knowledge-intensive and creative economy.

Studies have shown that demonstrated that there is a positive correlation between education and earnings. A study based on a Mincerian model established that an additional year of schooling results in average in a 9.7% increase in hourly earnings at the global level The study noted that that there is significant variation across regions, with some regions registering results lower than the global average: Middle East and North Africa (6.5%) and South Asia (7.2%) (Montenegro & Patrinos, 2014). It is for this reason that Technical and vocational education and training (TVET) continue to gain recognition and attention over the years at the global level.

Similarly, a study conducted in 2005 by Blundell et al on "Alternative Approaches to Evaluation in Empirical Microeconomics" revealed that there is a strong evidence linking investments in TVET to increased economic rates of return to individuals, households and the economy as a whole. Therefore, there exist a positive relationship between investments in TVET and sustainable development. It is for this reason that countries continue to make deliberate efforts to heavily invest in the TVET sector.

Hence, TVET continue to be considered as a top investment priority most developed and developing countries because of its association to sustainable development.

On the other hand, CIA (2017) confirms that at the national level, the Association of South East Asian Nations (ASEAN) member countries have made a radical shift of placing TVET to the mainstream of education. Each member country has its strengths and sectors that contribute to its GDP and employment. This position is supported by AIP conference (2017) which noted that Cambodia has been working with the Asian Development Bank (ADB) to strengthen investments in TVET as a key strategy to reduce poverty and achieve socio-economic development through improvement in national productivity and employment creation in the formal and informal sectors.

A study conducted by UNDP (2019) on the relationship between the economic returns of investments in education and technical vocational education and training further revealed that a TVET graduates with a bachelor in civil engineering earn an average monthly wage of US$467 whilst a graduate with general higher education earns an average monthly wage of US$573. The finding further showed that TVET graduates with a bachelor degree in electricity and information technology earn monthly wage of US$429 and (US$376 respectively whist those with similar qualifications in general education earn monthly wage of US$509 and US$434. The Federal Republic of Nigeria national policy affirms that TVET is instrumental in enhancing technological and industrial development of the country (FRN 2004). The training is considered important since enables trainees to acquire practical and applied skills.

These results demonstrate that there exist wage differentials between the graduates with TVET degree and general higher education qualifications. The results further reveal

that TVET graduates are absorbed into the labour market faster than those with general higher education.

2.4 Stakeholders' Perceptions towards TVET and Efficiency in Skills Development

Experiences from countries across the world have demonstrated that improving skills development can increase and help lift people out of poverty. It is for this reason that many countries have made considerable efforts to improve the image of TVET. OECD (2010) report on Vocational Education and Training in Germany established that both the government and private sector provide financial resources to Vocational Education and Training because it is deeply rooted and highly respected. This training system adequately prepares the youth to adapt to the dynamic labour market needs and requirements.

Similarly, a study conducted by McKinsey and Company in 2013 on the competitiveness repository South Korea Meister schools which revealed that these schools were designed not only to prepare the youths for the world of work, but also to give them a higher sense of prestige and esteem. The findings further revealed that 85% of the first cohort of 'Young Meisters' had already signed contracts for employment even though they hadn't graduated. On the other hand, a study conducted on the other arms race by The Economist in 201confirmed that 93% parents in South Korea were determined to have their children pursue postsecondary education. However, asserts that due to cultural subjectivity, it has been difficult to convince a large number of youths and their parents to prefer vocational training to university education

In Singapore, the ADB 2013 policy briefs points out that prestige of Vocational Training Education was enhanced through the upgrading and repositioning it into the Institute of Technical Education (ITE), and transforming it to be recognized as a world-

class educational institution. Singapore on the other hand, made policy initiatives such as introduction of 'applied degree' programme to raise the prestige and the signalling value of technical training in the market.

These initiatives in South Korea and Singapore assisted in making the training attractive to students and key stakeholders The Association of Southeast Asian Nations (ASEAN) recognize TVET as a priority national development agenda. For example, the ASEAN Work Plan on Education 2016-2020 under Strategic Goal 4, confirms that ASEAN supports the development of TVET and Lifelong Learning by maximizing access to TVET; strengthening Regional Harmonization and TVET Personnel Development; establishing Regional Quality Assurance and Recognition of TVET; and reducing the gap between supply and demand of skilled labour (AIP Conference Proceedings 1887, 020076, 2017). Governments in Southern Asia have initiated strategic interventions aimed at improving the image of TVET in order to ensure supply and demand of skilled labour is at equilibrium.

The UNDP study on economic return to investment in education and TVET in 2019 showed that TVET is considered by students to inferior compared to general education. Thus, the low enrolment and retention rates in TVET institutions compared to general education has been attributed to these negative attitudes by students from poor households, school dropouts and marginalized groups.

The study conducted by UNDP (2019) further revealed that TVET has been placed at the centre of Cambodia's development agenda. Thus the government and development partners have made concerted efforts to fund this sector with an aim of increasing awareness among high school students. The government is committed to make these students to prefer TVET related programmes to general education. The government hopes to become an upper middle income country by 2030. In this way, Cambodia will

have adequate stock of skulled labour force to enable it not only address the skills mismatch, but also, attain high-incomes status by 2050. Moenjak and Worswick (2003) in their study in Thailand found out that graduates from TVET institutions provided more economic returns than those with general education qualifications.

The launching of the national policy in 2015 was aimed at strategically reimaging and promoting the role of TVET in reimaging TVET in realization of Cambodian vision and development goals. The government has received enormous technical and financial support to boost skills development. The Government made a commitment to increase budgetary allocations to the industrial sector from 24.1% to 30% by 2025 (UNDP, 2019).

A study by Kahyarara and Teal in 2008 in Tanzania on returns found out the investment in TVET has more returns than that of general education. This finding is supported by Verhaest study that demonstrated that students who pursue TVET related programmes are likely to be more productive that those from general education.

In African, the AU report (2007) on strategy to revitalize technical and vocational education and training in Africa indicated that unlike European countries such as United Kingdom and Belgium, where about 50% of the learners in upper secondary education are introduced to some VET, countries in Africa such as Kenya and Zambia it is less than 4%. These figures demonstrate that quite a number of developed European countries have positively view TVET as a significant investment to stimulate economic growth and open up employment avenues for the citizens. However, seemingly many countries in Sub Saharan Africa still seem to have a negative perception towards TVET. Studies have shown that most countries in SSA, still consider Technical, Vocational Education and Training to be an inferior type of education that is meant for people who have less cognitive and intellectual ability.

A study conducted on the state of the textiles training and its impact on Recidivism in Ghana by Boateng in 2010 revealed that the negative perceptions have been associated to poor TVET policy which too often relegates the sector to least desired status in the overall education system in many countries. The UNSCO Report (2013) on *Indicators of Skills for Employment and Productivity* noted that TVET continue to be negatively perceived in many developing countries. This negative attitude has made the training to be less attractive leading to low enrolments in TVET institutions.

Studies have shown that in South Africa, graduates of the TVET sector are considered inferior compared to their university graduate counterparts. The low prestige of graduates is further punctuated by the negative perception attributed to certificates obtained from TVET institutions. This position was supported by a comparative study on implementation of TVET policies in South Africa by Afro (2015) which pointed out that the majority of key stakeholders had a negative perception towards the training. In this regard, the TVET sector was poorly funded to attract a large number of trainees.

In Ghana, the sector has been held in low esteem (COTVET, 2012). TVET is held in low esteem by the society and perceived as a career path for the less academically endowed. People who attended TVET institutions are considered as people with low status (Arfo, 2015). The situation of TVET systems in these countries have been attributed to the use of insufficient human, physical infrastructure, facilities and equipment. Most TVET institutions use old-fashioned curriculum, and offer training programmes that are not responsive the dynamic labour market (McGrath, 2005; African Union, 2007).

In Nigeria, the TVET sector is also negatively perceived major stakeholders. As McGrath (2005) notes TVET individuals with TVET qualifications tend to have a low prestigious position in society. A study conducted on TVET and human resources

development in West Africa by Osuji in 2003 indicated that parents allow their children to pursue TVET related programmes only when they have been unable to meet university entry admission requirements. Consequently, most parents make decisions to have their children enrol in TVET programmes only when they fail to gain entry for university education. In view of these findings, students and key stakeholders seem to have limited understanding of the role and capacity of TVET in enhancing skills development. This negative perception tends to perpetuate the notion that TVET is meant only for school dropouts and academically weak students. The sector is portrayed as a dumping ground for academically challenged individuals in society.

Reforms in the TVET sector in Kenya since independence have focused on establishing a practically oriented system of education to promote self-employment and self-reliance. A large number of youth graduating from the TVET system are unemployed despite the fact that opportunities for high technology skilled workforce exist. This situation has been attributed to negative attitude towards TVET, a mismatch between training and skills demanded in the labour market, and limited input from employers/industry into curriculum design in TIVET institutions (MOE 2008; MoEST 2012; RoK 2013).

2.5 Enabling Delivery Environment and Efficiency in Skills Development

TVET plays a vital role in human capital development of a country. A study conducted on Aid for Skills Development in South Korea by Hong and Kyu in 2012 found out that expansion of TVET institutions, provision of state of the earth training equipment, and conversion of policies regarding TVET through legislation has been instrumental in promoting skills development in South Korea. As a result, the country has moved from being one of the poorest nations in the world in the 1960s to become the world's 12th largest economy.

In the same vain, a report by ADB in 2012 on *Innovative Strategies for Accelerated Human Resource Development* pointed out that strategic investments in skills development through provision of adequate teaching learning resources and infrastructural facilities over the years has yielded positive outcomes in East Asian tiger economies and OCD countries. Consequently, the supply of skilled labour force has played a significant role in sustaining high economic growth and gradual transition to a knowledge economy in these countries.

On the other hand, a study conducted on teaching and teacher education in 2016 by Darling-Hammond found out that pedagogical methods employed by instructors during the implementation of the TVET curriculum plays an important role in influencing the quality of training. The findings further confirmed that the effectiveness of all education systems depends critically on the quality of teaching and learning in the classrooms, workshops, laboratories and other spaces in which the education takes place.

This position of improving the quality of training through employing appropriate pedagogical methods in agreement with Mangwiro's 2016 study in Zimbambwe on *implementation of Competency Based Education and Training (CBET) curricula.* The study findings revealed that teaching and learning in TVET ought to be applied with the best teaching methods for effective result. These studies have shown that employing suitable learner-centered pedagogical techniques by trainers is critical in enhancing attainment of learning outcomes.

In essence, these studies confirm that capacity building of teachers is critical in enhancing the quality of TVET. Therefore, it is important for training institutions to recruit and train qualified instructors. In addition, there is need for teacher professional development policy formulation, planning and development by the top notch trained TVET experts. Similarly, it is instrumental for trainers to employ innovative

pedagogical methods in order to assist the trainees to in depth knowledge, practical skills, competencies, attitudes and values. Although skills development is considered a key element in promoting sustainable development, most African countries have not made adequate investment in the TVET sector.

A comparative analysis study conducted on *Technical and Vocational Education and Training Policy* by Arfo in 2015 revealed that, in South TVET graduates were not adequately equipped with relevant skills to meet the changing labour market need and expectations. This situation was associated to inadequate teaching learning facilities and qualified teachers. Afro's comparative study also found out that Ghana 's TVET philosophy was based on the development of a training system capable of producing responsive and internationally competitive workforce through Competency-Based TVET Approach. However, the findings revealed that TVET lecturers were not prepared for the competency-based education and training. As a result, skills acquired by graduates of technical and vocational education and training were not responsive to the needs of the industry. The findings further revealed that in Nigeria that most of the training institutions experienced shortage of instructional resources, facilities and adequately trained instructors. As a result, the TVET systems did not adequately prepare the graduates to meet the labour market needs and aspirations.

A study conducted in Nigeria on repositioning of facilities s in 2010 by Umar and Ma'aji established that the training facilities such as tool and equipment were in dilapidated state and poorly maintained. The findings further revealed that there were no plans to acquire new ones by either the federal government or other key education actors. A study conducted on teaching and learning facilities in Nigeria by Mono (2012) revealed that the poor quality of TVE was attributed to lack of modern physical infrastructural

facilities such as laboratories and workshops in almost 60% of the institutions. These findings were supported by Afro (2015) study in Nigeria which revealed that most of the training institutions experienced shortage of instructional resources, facilities and adequately trained instructors. As a result, the TVET systems did not adequately prepare the graduates to meet the labour market needs and aspirations.

Further, in spite of the enormous contribution of TVET to sustainable development, it remains neglected in terms of sufficient modern infrastructural facilities, human, material and financial resources in most countries. As a result, most countries have been denied the opportunity to benefit from the contributions technical and vocational skills to promote national socio-economic development (Zite & Deebom, 2017). These studies reveal that most of the TVET institutions experienced huge shortages of qualified academic staff more particularly in science and technology disciplines. Additionally, low academic achievements and poor quality of training by student could be attributed to inadequate tools, equipment and funding for technical and vocational training institutions. Similarly, physical facilities are essential in enhancing teaching and learning. These facilities enable effective realization of institutional education and training objectives. Hence the facilities enable the institutions to achieve meaning results and outcomes.

A study conducted on Provision of Workshop Tools and Equipment by Audu, at el., (2013) demonstrated that infrastructural and instructional resources play an important part in supporting and enhancing the delivery of quality training. The findings further revealed that these instructional resource are considered critical for effective implementation of the TVET curriculum in Nigeria. Therefore, adequacy of facilities

and resources can assist for TVET institutions to improve the academic performance as well acquisition of demonstrative skills required in the world of work.

In Kenya, Technical Vocational Education and Training institutions have also been characterized by insufficient physical training facilities, human and financial resources. Hence, the country efforts to improve the processes of skills development for realization *Kenya 2030 Vision* remains a major challenge. The government *(2003) report on a rapid appraisal on the status of technical and vocational education and training* pointed revealed that the objective of TVET was to provide requisite technical knowledge and vocational skills to enable the youths participate in national development.

Similarly, *Sessional Paper No.1of 2005: A Policy Framework for Education, Training and Research emphasizes that* the objective of TIVET is to provide and promote lifelong education and training for self-reliance. However, *Sessional Paper No.1* noted that some the problems experienced in training institutions is inadequate facilities, inadequately trained instructors, insufficient and dilapidated physical facilities, tools and equipment. Despite the policy interventions that were recommended to mitigate these problems, implementation has been viewed to be slow, inadequate and inconsistent. It can be argued that inadequate infrastructural facilities, insufficient tools and equipment TVET institutions hinder effective transfer of practical knowledge and employable skills from training institutions to the world of work.

In addition, the *Sessional Paper No. 1 OF 2019 on a Policy Framework for Reforming Education and Training for Sustainable Development in Kenya* provided further emphasis that the TVET subsector provided opportunities for the youths to acquire skills needed to enhance industrialization. However, the paper revealed that despite the milestones made in promoting access and quality, subsector is characterized by low

enrolment and retention rates, insufficient TVET institutions and inadequate instructional materials, tools and equipment. Nonetheless, the government hasn't adequately managed to implement the proposed policy intervention in order to enhance equitable access and quality.

In view of this observations, it can be deduced that TVET delivery environments are inappropriate in promoting skills development in many developing countries. Provision of sufficient of teaching learning materials, state of the earth physical facilities, and equipment require huge sums of financial resources. Teachers who are competent and knowledgeable in both practical and theory play a significant role in skills development. Pedagogical skills enable the teacher to organize the entire teaching learning process more logically and interactively in order to enhance skills acquisition. Employing unqualified teachers, therefore, is likely to result into the production of unqualified graduates. Unless this situation is urgently addressed, skills development will remain a mirage.

In summary, these studies have revealed that that the poor quality of training in TVE systems in various countries can be attributed to insufficient qualified instructors, outdated tools and equipment, and inadequate instructional in essence therefore, effective implementation of the TVET curriculum can be enhanced through the provision of adequate and qualified instructors, suitable workshop tools and equipment, and sufficient and relevant instructional materials. Therefore, infrastructural facilities, human resources, tools and equipment in TVET institutions serve as strong pillars of support for quality and effective teaching and learning processes.

2.6. Industry-Institution Partnerships and Efficiency in Skills Development

Studies have shown that developed and developing countries have designed and implemented various strategies to increase the employability and competitiveness of

TVET graduates and linking training with the world of work. Existing evidence demonstrate that involving the private sector, key actors from the industry, trade unions and employers' associations in designing TVET to ensure its relevance to industry needs is critical (Fluitman 2000; Akoojee, 2007; ILO 2011).

A study conducted on why students enrol in TVET by Powell and Mcgrath (2013) pointed out that learners' desire to pursue education and training to enable them acquire practical and applied skills needed in the labour market. The findings further indicated that the training should thoroughly prepare them for employment opportunities which can enhance their capacity to improve the live hoods of their communities and households, increase their self-esteem, and open more avenues for future empowerment.

The Republic of South Korea has made consistent efforts in strengthening the industry-training institution partnerships with a view of promoting a market-driven training strategy in skills development. As a result, most TVET trainees have been able to complete, earn credentials and improve their employment and life time earnings. The employment rate for college graduates and vocational high schools in 2012 was about 60% and 80% respectively (Eyster, 2009; ILO 2011; Shanti 2013; 2014). In Australia, the effective implementation of the national strategy on improving industry-training institutions linkages has assisted in raising the quality of TVET graduates. Hence, the supply of relevantly skilled labour force has been made possible (Tarik & Dhillon, 2012; Shanti, 2013: McKinsey & Company, 2013).

The national skills strategy project report on s*upporting technical and vocational education and training reform* pointed out that the Pakistan government made a commitment to advance the provision of labour market driven institutions through the adoption of work-based training methodologies and agreements between training

institutions and industry prayers. As a result, a national we-based skills information system was established to provide timely statistical data for the creation of labour market oriented institutions. This web-based system approach provides a strong link employment seekers and the labour market. Second, the report further revealed that private sector engagement was strengthened through increasing the level of representation of the sector in decision-making bodies.

The African Union (2006) noted that partnership between TVET providers and industry enhances the responsiveness of TVET programmes. A comparative analysis study conducted on *Technical and Vocational Education and Training Policy* by Arfo (2015) revealed that the industry-institution partnerships are critical in facilitating the development and provision of TVET programmes that would be responsive to the needs of the labour market. The study findings further indicated that industrial attachment introduces students to workplaces, enabling them to apply what they have learnt in the classroom and thereby relate theory to practice. Similarly, the internship exposes students to the operation and use of industrial machinery, develops work-based skills, contributes to industry development, and instil good work habits.

On the other hand, collaboration between industry and training institutions also provides opportunities for industry to participate in curriculum and programme development. A study conducted on methodology of Collaboration between Industry University and Institutes in India by Borkar & Paturkar (2013) established that was need to attracting Industry to higher education institutions for various activities such as internships, set up joint research projects, lectures and seminars by industry experts, joint research projects and curriculum developments.

The study findings by Borkar & Paturkar further pointed out that the collaboration could provide opportunities for industry professionals to participate in designing TVET programmes and curricula in order to make the sector more responsive to the needs of industry and the economy. Similarly, the industry sector actors could help to ensure that the skills required by industry are reflected in the curriculum, thereby making the curriculum demand-driven and based on industry standards.

A study conducted on industrial attachment programme in Zimbambwe by Dondofema *at el* (2020) found out that the adoption of internship in higher education institutions played a significant role in establishment of a special fund kitty in 1984. More importantly, the revision and enactment of the Manpower Planning and Development Act Chapter 28:02 of 1996 made it a mandatory provision for students studying in polytechnics to be paid allowances from the fund while on industrial attachment. This legislative intervention has assisted in strengthening industry-institution linkages and engagements in the country.

In Kenya, a number of policy documents and sessional papers have been developed over the years that focus on initiating and strengthening partnerships between industry and training institutions. *Sessional Paper No.1of 2005* demonstrated the commitment of the government to ensure on and off-the- job training is institutionalized in order to improve the quality of teaching-leaning process. More importantly, to ensure mandatory on-job training to improve the standards and relevance of TVET. However, the extent of implementation calls for interrogation through research.

On the other hand, the TVET Act of 2013 pointed out that training systems are required to incorporate industrial attachments and internships with an aim of providing quality and relevant training. These internship opportunities are considered critical in the development of practical and applied skills needed in the dynamic labour market TVET policy documents identify poor quality and inappropriateness of the curricula as a major challenge facing the sector. The skills theory-based curriculum as opposed to the desired combination of theory and competence-based courses in majority of TVET institutions fails to attract many trainees. Poor linkage between industry and TVET institutions is detrimental to skills development (RoK, 2012; RoK 2014).

The studies have revealed that Collaboration with industries is a mechanism for developing and improving student practical skills. It is also helpful for placement of students in industries to acquire workplace experience under an industrial attachment scheme.

2.7 Effectiveness in Financing and Efficiency in Skills Development

Notably, the TVET subsector plays a strategic role in the achievement of the 2030 Agenda for Sustainable Development and Kenya Vision 2030 given that it provides opportunities for the youths to acquire practical skills and attitudes. The technical and vocational knowledge and skills are needed by the labour market in particular as well as society in general. However, studies have revealed that investment in skills development is considered to be an expensive undertaking.

UNESCO-UNEVOC (2017) report on *diversifying the funding sources for TVET* confirms that despite the priority demonstrated by countries and states globally to skills development, the TVET sector remains largely underfunded. The report

further revealed that subsector is considered to be more expensive than general education because of the high costs of material, equipment, and facilities. However, in most countries, this sector is allocated low share of public budget TVET compared to other levels of training. In spite of this evidence, most countries have not made deliberate policy commitment to increase the budgetary allocations to the TVET subsector in order to enable training institutions to procure the necessary infrastructural facilities, instructional materials and human resources.

On the other hand, a study conducted on *financing of TVET in* in Latin America and the Caribbean by Hanni, (2019) indicated that inadequate coordination between funding of education and TVET can result to under optimization of allocation of resources. Thus, public expenditure and tax policies may not be adequately harmonized to ensure maximization of their impact. Similarly, lack of comprehensive, accurate and systematic data and market financial information of TVET can led to suboptimal allocation of resources.

Similarly, Hann's study findings also revealed that that public funding aims at ensuring efficient and equitable allocation of resources to enjoy increased social and economic rates of return. The findings also revealed that strategic investment in the TVET subsector contributes to improved economic growth, higher productivity, increased revenue base, and creation of employment opportunities. Consequently, public funding arrangements should target individuals from poor households, youths, women and other vulnerable group. However, studies have shown that one of the major rationale for public financing is to correct market failures in the economy. Consequently, households, NGOs, firms and philanthropic

material, technical and financial support are critical in bridging budget deficits experienced in the TVET sector.

UNDP (2010) report on Achievement of *the Millennium Development Goals* indicated that general taxation was considered to be the most reliable method of financing the Millennium Development Goals (MDGs) by governments in countries such as Argentina, Cuba, and Brazil in Latin America, and Jamaica and Barbados in Caribbean. Similarly, Hanni (2019) pointed out that in some Latin and Caribbean countries there exist tax receipt from education and TVET specific tax instruments. For example, in Argentina and Costa Rica the legal framework gives a clear strategy on the percentage of total revenue that is to be allocated to finance the TVET sector. The financial resources generated from these sources are specifically ear-marked education and TVET. Thus, these revenues complemented the efforts of the governments in financing the education sector.

Studies conducted on, *"Human capital performance bonds"* and *"Social impact bonds* by Rothschild (2013) and Azemati, et al. (2013) respectively**,** established that countries such as Canada, Colombia, India and Israel have made remarkable efforts to encourage the private sector to fund the provision of social services like education. Hence, these efforts have led to the emerging of social impact bonds and human capital performance bonds. In such cases, the governments allow the private sector players to create social impact through their investments in education and TVET while realizing economic or financial returns. As a result, these policy initiatives have had a significant impact in enhancing quality and relevance skills development in these countries.

Studies reveal that the TVET institutions do not have adequate and appropriate training tools, equipment, and facilities because sector remains underfunded in many developing countries. A comparative study on *Analysis of Technical and Vocational Education and Training Policy* by Afro in 2015 revealed inadequate funding by the federal government of Nigeria had greatly contributed to that insufficient availability of teaching and learning facilities. The findings further revealed that the damaged and worn tools could not be repaired or replaced due to inadequate funding. Consequently, the training systems do not have the capacity to provide an appropriate environment for to enhance acquisition of quality skills by trainees.

The Government of Ghana through an *Act of Parliament (ACT 718 of 2006)* established the Council for Technical and Vocational Education and Training (COTVET). This act provided a foundation for the establishment of Skills Development Fund (SDF) whose aim was to ensure sustainable sources of funding for a responsive technical and vocational education and training system. The Government of Ghana and development partners were the main contributors for the SDF. According to COTVET (2012) the member industries and businesses would contribute 1% of their total payroll, while labour unions and trade associations would contribute 0.5%. However, in spite of this financial arrangements, the TVET sector did not have adequate funds to meet both the recurrent and development expenditure. However, the study carried out by Afro in 2015 revealed that TVET sector in Ghana did not have sufficient funds for procuring teaching-learning facilities, constructing workshops, and repairing of dilapidated physical facilities.

The South African Government's aspiration to develop and provide skills necessary for economic and social developments led to legislative approvals of skills development laws and initiatives. The Skills Development Levies Act (RSA, 1999) established a compulsory levy scheme for the purpose of training. The levy scheme has had positive outcomes in skills development as revealed by a study conducted by Arfo in 2015. Uzoagulu (1993) study in Nigeria revealed that by the Federal government to the TVET sector has been one of the cause of inadequate workshop facilities.

A study conducted on *Challenges facing technical institute graduates* in Ghana by Dasmani (2011) pointed out that insufficient budgetary allocations by the government made it difficult for TVET institutions to procure adequate instructional materials and tools. Consequently, the short supply of the resources negatively affected practical skills acquisition by graduates. The study found out that that the student funding programme had assisted in promoting access and participation in TVET institutions. Provision of computers and other teaching facilities in TVET institutions has been actualized. However, the study found out that the teaching learning facilities were still not adequate in most training institutions. The government did not also have sufficient funds for employing qualified teachers. Sessional paper no. 1 of 2005 indicates that the provision of TVET is extremely expensive (MoHEST, 2005).

Studies show that Nigeria continues to experience persistent unemployment, low productivity and poverty. The country has an economically active working age population over 50% of the national population, with pronounced youth

unemployment among secondary school age students (National Bureau of Statistics, 2016a).

A study by Adekunle (2019) on funding effectiveness of TVET in Nigeria established that the country will continue to face problems in addressing unemployment and bridging the skills gaps unless special attention is given the provision of quality education especially TVET. These studies demonstrate that proper planning and adequate funding of the TVET sector is critical to assist the country to ensuring that the demand and supply of skilled human capital is at equilibrium at any point in time in order to curb the rising unemployment rates among the youths.According to Zite & Deebom (2017) revealed that some of the common challenges facing technical and vocational training include inadequate instructional models and poor remuneration to TVET lecturers due to inadequate funding of TVET programmes.

World Bank (2003) study on *Vocational Skills development* reveals that poverty remains a major challenge in most countries in Sub Saharan Africa. Therefore, the findings observed that it is important to address funding issues before supporting the private sector to provide technical vocational and education training. Similarly, it is important to provide financial assistance to students from poor and disadvantage households through bursaries and scholarships.

In addition, it is imperative to put in place mechanisms that can be employed to monitor quality, standards and relevance. On the other hand, in cases where public funding isn't possible, the government can support the private sector to offer affordable and quality training through tax exemptions, carrying out regular inspection, and provision of staff development initiatives.

The World Bank (2003) study findings further established that TVET institutions in Kenya and Uganda face financial challenges due to declining public funding initiatives. As a result, most of the institutions do not have the capacity to ensure proper maintenance and replacement of infrastructural facilities, tools and equipment. Consequently, most of these institutions are characterized by low enrolment figures and poor quality of training.

The *sessional paper number of 2019* observed that effective realization of Kenya Vision 2030 and Sustainable Development Goals through promoting quality in TVET systems a priority commitment of the Government. However, the provision of facilities and instructional resources has been identified as a major challenge over the years. Notably, a study on *Skills gap analysis for TVET in Kenya* by United Nations Development Programme (2010) revealed that trends in technology and modern training requires deployment of well trained personnel and use of expensive tools and equipment.

These findings confirmed a study conducted on *the impact of economic liberalisation on private sector training provision in Zimbabwe* by Bannell (2000) which the investment in the TVET sector is expensive. AS a result, innovative and proactive resource mobilization strategies must be designed to ensure provision of funds to meet the needs of the TVET subsector. Bannell (2000) further alluded confirmed that in majority of countries in Africa, it is the trainees and their families who fund both the development and recurrent expenditure in the TVET sector given increased parsimony in public resources.

In summary, the studies shown that the county and national governments should upscale and sustain serious commitment and efforts aimed at promoting diversification of sources of revenue for VET institutions. One of the ways of achieving this policy strategy is to encourage TVET institutions to initiate Income Generating Projects (IGPs). These projects can include engaging in entrepreneurial activities related to the courses/trades such repair, maintenance and servicing of motor bikes and other automobiles, and to offer private, weekend and/or evening classes.

Similarly, the TVET institutions can reach out to wealthy philanthropist from the community, private sector players, alumnae associates and well-wishers for material and financial support. The extra income may help reduce the problems associated with underfunding and late budget disbursement from the county and national governments. Similarly, it may help improving infrastructural facilities and instructional resources which in turn can assist in encouraging and attracting more qualified trainers to remain with the TVET institutions.

2.8 Summary of Review of Literature

Review of related studies revealed that workforce skills development is a powerful vehicle in raising productivity, enhancing attractiveness, facilitating employment, and reducing poverty and inequality in counties like South Korea, Germany, and Singapore. Creating enabling delivery environment was found to be an important strategy in providing a strong foundation for quality skills development.

Among the key environment variable identified include: training facilities and equipment; ICT; human resources; stakeholder involvement; Competence Based TVET

Curriculum; and teaching learning resources. Partnerships between industry and TVET providers were also found to play a significant role in blending theory and practice. Strategic and appropriate industrial student attachments, partnerships in curriculum development and funding would assist in creating demand driven TVET institutions.

TVET should be adequately funded in order to ensure provision of sufficient educational inputs such as qualified staff, state of the earth training facilities, and instructional training materials Although the public financing for TVET was identified as the main source, there is need to diversify funding methods such as private sector with a view of improving skills development. The studies revealed that compared to academic education, the TVET sector is often considered to be a preserve for academically challenged individuals.

It is held in a low esteem by the society. The graduates from TVET institutions are viewed as being inferior compared to university graduates. The studies have shown that training systems need to be more effective, efficient, competitive and responsive in order to improve skills development. The problems facing the TVET subsector have been adequately identified in developing countries in general, and Kenya in particular have over the years been identified and analysed.

However, many of these reviewed studies have not attempted to conclusively provide a framework for mitigating the challenge bedevilling the TVET sector with a view of improving skills development as an important strategy of bridging the skill gaps in a rapidly changing knowledge-based economy. Therefore, the current study is strategic and timely in attempting not only to ensure that TVET secures an enhanced reputation, position and value, but may also provide useful insights to inform policy interventions that could assist adequately address the research questions that guided the study.

2.8 Theoretical Framework

The study was guided by the Human Capital theory, which was advanced in the earlier 1960s by great economists such as Shultz and Becker. The theory is anchored on the relationship between human capital and productivity and the distribution of wealth. The proponents of the theory argue that knowledge, skills and competencies acquired through education and training improves the productivity, employability and earning capacity of individuals.

Similarly, training is critical in determining and individual's possibilities of getting access to the labour market in a fast-changing knowledge-based economy (Schultz 1962; Becker, 1964; 2005; Fisher et. al. 2003; Jarego, 2014) In addition, the Education Production Function model was applied to analyse the relationships between the inputs and outputs in the skills development process.

It was against this back ground that the following inputs were analysed: instructor's qualification and experience; instructor trainee ratio; manager's qualification and experience; instructional and training materials; physical infrastructural facilities; and other training materials, workshop and laboratory equipment, and output is the trainee's end of course educational achievement.

2.9 Conceptual Framework

Figure 2.1 demonstrates the conceptual framework of the current study, which focuses on determinants that influence efficiency in skills development in Technical Vocational Education and Training. Study's framework was presented in Figure2.1.

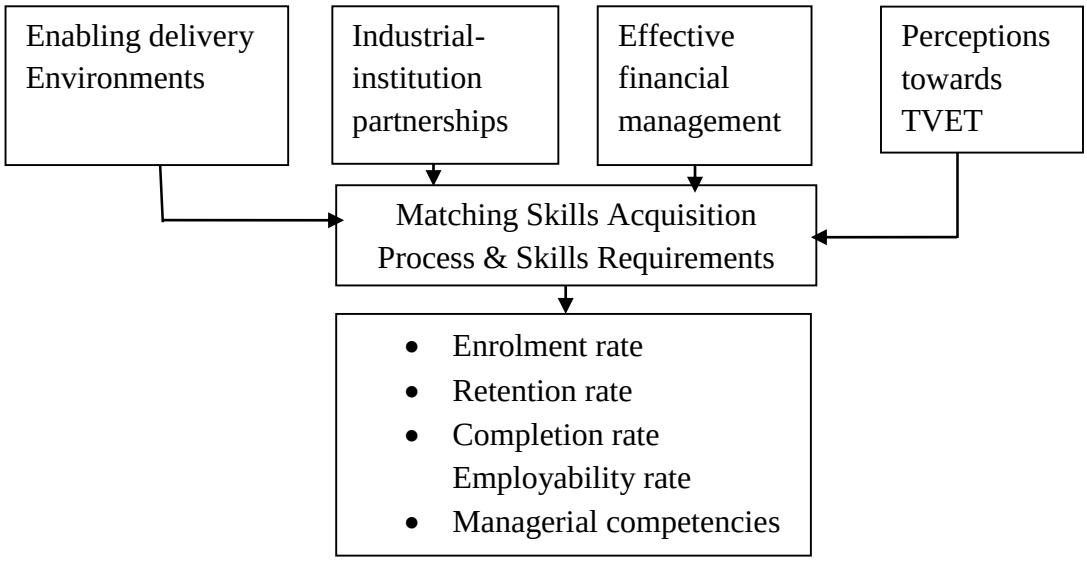


Figure 2.1: Enhancing Efficiency in Skills Development in TVET.

The process of skills development efficiency requires a thorough analysis of labour market gaps and in-depth comprehension of how well the skills individuals have acquired meet the fast-changing labour market requirements. More importantly, a thorough evaluation of the social and economic returns on investments in skills development is critical in measuring efficiency in skills development. It is against this background that it was important to analyze ways through which the dependent variables identified affect skills development. In addition, the study identified various indications to measure efficiency in skills development; trainee attendance rate, retention rate, trainee satisfaction rate, average course time completion rate, trainee completion rate, employability attribute, financial managerial competencies and job performance impact. These key performance indicators provide precise metrics to measure the suitability, appropriateness and sustainability of the training system. The metrics assist to measure and provide feedback that is important to improve the skills development process to meet the changing labour market needs, and the demands of the knowledge based economy.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

The purpose of the study was to examine determinants that influence efficiency in skills development in Technical Vocational Education and Training in Kisii County in Kenya. This section describes the methodology under the following headings: research design, the target population, sample and sampling procedures, research instrument, procedure for data collection, data analysis procedures, and ethical considerations.

3.2 Research Design

The study employed a correlational research design. The main purpose of a correlational study is to determine relationships between variables, and if a relationship exists, to determine a regression equation that could be used make predictions to a population. This design assisted in collection of significant amounts of data from the population using structured questionnaires, interviews, and document analysis guide in order to be able to provide in depth description and analysis of the opinions, comprehension and attitudes of the respondents without manipulation of the study variables. The design assisted to establish the relationship between independent and dependent variables being measured. Through statistical analysis, the relationship provided a degree and a direction. This design provided the framework to evaluate determinants that influence the efficiency in skills development. Hence, it was possible to make conclusions and recommendations based on the findings of the study.

3.3 Target Population

The study was conducted in Kisii County which is one of the 47 Counties in Kenya. The target population comprise of all the 41 operational and functional Public VTCs, 41 principals, 41 chairpersons of BOM, 420 instructors, 7824 trainees. Similarly, the

county and sub County directors of education, the school auditors and the County Executive Member for education were targeted.

3.4 Sample Size and Sampling Procedure

Purposeful sampling involves selecting particular sample because they have important information on the issue under investigation (Saunders et al., 2009). This technique was employed to select 17 VET institutions because they are registered and have crucial documents and have also clear institutional arrangements. The 17 principals, the County Education Executive Committee Member, the County Director of Education, the two County Sub Directors of education and the two schools' auditors were purposefully sampled because they had the capacity and were strategic in providing crucial required information.

Stratified random sampling technique was employed to select trainees in the 17 TVET institutions according to gender, course and year of study. The technique involves a process whereby certain subgroups are selected from the population to represent the sample in proportion to their numbers in the population itself (Sekaran & Bougie, 2010; Norman &Jack 2013; Orodho et.al. 2016). This technique enabled the study to ensure that both male and female trainees are included in the sample in the same proportion as they exist in the proportion of students enrolled.

In addition, the study employed systematic random sampling to select 20% of each gender from the population in each department and each year of study. In this regard, admission numbers of trainees were chronologically arranged on a register. Due to the covid-19 pandemic, 46 trainees from each of the 17 VTCs (782) were selected to participate in the study**.** 30% of 782 males and females' participants were selected to

participate in the study. Similarly, 30% of 420 instructors were selected be selected to be part of the study using non probability sampling technique. Similarly, the County and sub County Directors of education, the school auditors and the County Executive Member for education were purposefully selected to participate in the study.

3.5 Research Instruments

Questionnaires, face to face interviews, document analysis and observation guides were used to for data collection. The principal's questionnaire contained both open-ended and closed items. It was divided into two sections. Section A: contained items which captured background information about the institution and the principals. Section B: consisted of specific questions seeking information related to the study objective. Critical and relevant documents at the vocational training centres containing trainees' information on enrolment trends, physical facilities, training instructional material and human resources were also reviewed. Similarly, important records relative to the study at the County department of finance were be reviewed and analysed.

The questionnaires for the principals, instructors and trainees had two parts; section A of the questionnaire collected background information about the respondents; and section B consisted of specific questions seeking information related to the study objective. In addition, the County Executive Committee member for education, the two school auditors and the two Sub County Director of Education were interviewed. Interviews were advantageous since it made it possible to interact with the participants, assisted in confirming some of the critical responses in the filled in questionnaires, Similarly, the interviews were provided a good platform for making a follow-up on unclear or interesting responses that were captured in the filled in questionnaires. Generally, the In-depth interviews were found important for during the triangulation process in clarifying and validating the responses collected through questionnaires.

3.6 Validity of Research Instruments

It is the accuracy of a measurement device to measure what it intends to measure. According to Orodho (2009) validity is the degree to which results obtained from the data analysis actually represents the phenomenon under investigation. The aim of content validity was to determine the clarity and appropriateness of question items and suitability of language used in the instruments. It is for this reason that it was possible to logically analyse the content of the items that were constructed to ensure they were appropriate to adequately elicit relevant and useful responses for each study variables. In addition, it was also important to seek guidance from experts who are knowledgeable about the variables under investigation (Sekaran, 2003; Norman & Jack 2013). Consequently, adequate consultation assisted to obtain the supervisors' expert opinion. As a result, the items that were found unsuitable were either discarded or modified with an aim of improving the quality of each of the instruments.

3.7 Reliability of Research Instruments

Reliability refers to the degree of stability, equivalence and consistency of a measure. A test or a measure can be said to be reliable depending on the degree of consistency between the different measurements of an individual's response over a period of time and across situations (Cooper & Schindler, 2003). To check the internal consistency, the split half method was used. In this method, the results were split in half and compared to see if the results are similar. For purpose of the current study, the *Cronbach Alpha coefficient* was used to test the internal efficiency of the scale or measure. The higher the score, the more reliable the generated scale is (Delafrooz, Paim & Khatibi, 2009). The scores were correlated using Pearson's product moment co-efficient and this was taken as an estimate of reliability.

$$r = \frac{N\Sigma XY-(\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2-(\Sigma X)^2][N\Sigma Y^2-(\Sigma Y)^2]}}$$

Where: ΣX=the sum of scores in X distribution

ΣX^2═The sum of the squared score in X distribution

ΣXY═ The sum of the product of paired X and Y scores

N═ The number of paired X and Y score

R═ Co-efficient of reliability (Best& Khan, 2006).

A coefficient of 0.8 was considered ideal for the current study.

3.8 Data Collection Procedure

The research proposal was submitted to the department of Administration and Planning for examination to enhance the PhD registration process as required. The approved proposal was presented to the school of education for examination and approval for onward forwarding to the graduate school. Upon approval of the proposal and complete registration by the graduate school, the research permit from the National Commission for Science Technology and Innovation for data collection was provided. The contact plan and data schedule on how to reach all respondents conveniently and appropriately was developed and used.

3.9 Data Analysis Techniques

The data collected was cleaned up; checked to ensure it was accurate, complete and suitable for further analysis. At the coding stage, a number was assigned for each survey question, and these were entered into a record that includes all the responses from each respondent. Each respondent was given a unique identity number. The data was then organized into thematic categories to facilitate easy and effective analysis. Both qualitative and quantitative techniques was applied to explain the data and draw inferences. Multiple regression analysis techniques were also used since it was to show

the individual effect of each independent variable on the dependent variable. Similarly, this statistical technique was important for exploring the strength of relationship between several independent variables and one dependent variable. The advantage of multiple correlation analysis and multiple regression analysis is that it permits one to analyze the relationships among a large number of variables in a single study (Borg, et al, 1983).

$P = A + BX_1 + CX_2 + DX_3 + EX_4 + FX_5 + GX_6 + HX_7 + IX_8$

Where P = Trainee performance after skills acquisition

x_1= Instructor-Trainee Ratio

x_2= Trainee's average admission score

x_3= Principal`s qualification and experience

x_4= Workshop and Laboratory equipment

x_5= Instructional and training materials

x_6= Financial resources

x_7= Instructor`s qualification and experience.

a, b, c, d, e, f, g, h, i are constants

(Adapted from Jagero (2014): Input – Output Relationship and the Quality of Education in Day Secondary Schools in Kenya.

According to Jagero's study, using SPSS computer (Statistical Package for Social Sciences) the values of the constants will be established. The step-wise multiple regression analysis is appropriate since it eliminates the independent variables whose contribution to the regression model will decline to a non-significant level and all the included independent variables in the regression model was to be significant at 0.05 confidence level in a two tailed test (Jagero, 2014).

3.10 Ethical Considerations

The study complied with the professional, legal, and ethical obligations that are required to carry out the study. The requisite fees to obtain a research permit. Written applications to secure consent to conduct the study were given to all selected respondents. The respondents gave consent and they assured that confidentiality of their identity, and that there was to be no victimization or penalty for choosing to or not to participate. Finally, adequate efforts were made avoid form of plagiarism. All sources of information and review of literature were acknowledged all forms and sources.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

The purpose of the study was to examine determinants that influence efficiency in skills development at Technical Vocational Education and Training (TVET) in Kisii County in Kenya. This chapter focused on data analysis followed by presentation, interpretation, and discussion of findings. The study employed both descriptive and inferential statistics to analyse the data that was collected. The findings, interpretation and discussion have been reported according to their corresponding research objectives. First, to assess how stakeholders' perceptions towards TVET affect efficiency in skills development at VETCs. Second, to evaluate how the enabling delivery environment affects efficiency in skills development at VETCs. Third, to examine how industry-training institutions linkage affects efficiency in skills development at VETCS. Finally, to determine how effectiveness in financing of VET affects efficiency in skills development at VETCs.

4.2 Response Rate

Response rate refers to the number of respondents who returned usable instruments for the study out of the total number contacted for the study (Mugenda & Mugenda, 2003). The questionnaires were used to gather data from the principals, instructors and trainees at vocational education and training centres. The interview guide was also used to collect data from the County Executive Committee (CEC) member for education, County Director of Education (CDE), Sub County Directors of Education and County (SCDE), County School Auditors (CSA). Finally, document analysis guide was also used to collect data on physical, human, material and financial resources.

As a result, 17 principals, 65 to instructors, and 236 to trainees in public TVET institutions in Kisii County were reached out to fill in the semi-structured questionnaires. In return, 14 duly filled questionnaires were returned out of 17 for principals giving a response rate of 82%. Further, 52 questionnaires were returned out of 65 for instructors with response rates of 80%. Finally, out of 236 questionnaires administered to trainees 177 were returned making a return rate of 75%. Edward et al. (2002) notes that, if return rate is at least 80 percent, it is excellent; if between 60 and 70 percent, the rate is sufficient but if it is less than 60 percent, the return rate is said to be poor. Therefore, the return rate for this study was perfect. In all categories, research instruments attained a return rate of 75% and above that was considered appropriate for data analysis as recommended by Mugenda and Mugenda (2003) who observed that a 50 % response rate is adequate, 60 % good and above 70% as highly acceptable for social sciences. The study return rate was depicted in Table 4.1

Table 4. 1 Questionnaire Return Rate

Respondents	Questionnaires Administered	Questionnaires Return	Return rate %
Principals	17	14	82
Instructors	65	52	80
Trainees	236	177	75
Total	**318**	**243**	**79**

As shown in table 4.2, the return rate of questionnaires from the principals, instructors and trainees on average was 79%.

4.3 Demographic Data

This section provided information on the respondents and the VETCs that were involved in the study. The data on the determinants of efficiency in skills development was collected from 17 VETCs in Kisii County, whereby 14 principals, 52 instructors, 177 trainees participated in the study. In addition, the County

Executive Committee (CEC) member for education, the County Director, two (2) Sub County Directors of Education, and two (2) County School Auditors participated in the study as Key informants.

Demographic information provided included gender, age, education qualification and areas of specialization, and teaching experience of the respondents. The obtained biodata was computed and presented in subsequent sub-topics.

4.3.1 Gender of Respondents

The study sought gender of respondents to understand the gender disparity of the population. The principals' gender was obtained to evaluate their suitability in institutional leadership and management experience in relation to instilling quality of education at public VETCs. Similarly, trainees' age was examined to understand their gender distribution in public VETCs in Kisii County. The principals and trainees' gender distribution were tabulated as presented in Table 4.2

Table 4.2: Principals and Trainees' Distribution by Gender

Principals	**Frequency**	**Valid Percent**
Male	11	78.6%
Female	3	21.4%
Total	**14**	**100%**
Trainees		
Male	96	54.2
Female	81	45.8
Total	**177**	**100.0**

Results in Table 4.2 revealed that the 78.6% and 21.4% of the principals were male and female respectively. The findings signalled existence of gender disparities in management of VETCs in the county.

4.3.2 Age of the Respondents

The study sought age distribution of the respondents in public VETCs. The instructors were asked to indicate their age bracket to understand their active and energetic teaching and training age in TVET. The provided age information of instructors was tabulated as illustrated in Table 4.3

Table 4.3: Instructors Distribution by Age

Age Bracket	Frequency	Valid Percent
Below 20 years	3	5.8
21-30 years	4	7.7
31-40 years	24	46.2
41-50 years	11	21.2
51-60years	10	19.2
Total	**52**	**100.0**

Results in Table 4.3 showed that majority of the instructors comprising of 46.2% and 21.2% were between 31-40 years and 41-50 years of age respectively. These findings implied that majority of the instructors comprising of 67.4% at the VETCS were of the active and energetic teaching age. They have the ability to adequately prepare and equip the trainees with appropriate practical knowledge, skills, competencies, values and attitudes for better life in the 21st century.

4.3.3: Education Qualification of Respondents

Education was considered a relevant factor in TVET institutions. Therefore, the education qualification of principals and Trainees was obtained and results are depicted in Table 4.4

Table 4.4: Principals and Trainee's Academic Qualification

Principals	Frequency	Valid Percent
Diploma	8	66.7
Degree	4	33.3
Total	**12**	**100.0**
Trainees		
KCPE	83	47.7
KCSE	83	47.7
Craft	6	3.4
KJSE	1	0.6
KJPE	1	0.6
Total	**174**	**100.0**

** KJSE- Kenya Junior Secondary Education
** KJPE- Kenya Junior Primary Education

Results in Table 4.4 revealed that the 66.7% and 33.3% of the principals hold diploma and degree certificates respectively. This finding implied that they have requisite administrative knowledge, skills and competencies to manage the training institutions effectively. The finding also demonstrated that the principals were able to make prudent planning and managerial decisions aimed at improving the quality of training at VET institutions. Their level of education and training was considered to be important in enabling the principals to develop and implement administrative appropriate strategies. The finding, therefore, revealed that the principals' administrative, managerial skills and competencies were critical in the provision and maintenance adequate human, material, physical and financial resources and facilities. Resources and facilities were considered to be essential in promoting quality training in VTCs.

Results from Table 4.4 showed that it is only 14.3% of the principals in VETCs who have obtained a diploma certificate in educational management. The finding revealed

that majority of the principals may not be adequately equipped with appropriate educational management knowledge, skills, values, and attitudes necessary to effectively execute their mandate and functions. This result implied that capacity building programmes could be instrumental in enhancing the managerial and leadership skills of the principals.

4.3.4 Instructors' Area of Specialization

Instructors were asked to indicate their areas of specialization. The data collected assisted in thorough understanding of the courses taught and distribution of instructors. The analysed data for instructors was presented in Table 4.5

Table 4.5: Instructors' Area of Specialization

Specialization	Frequency	Valid Percent
Electrical and electronics	5	9.6
Dress making	12	23.1
Motor Vehicle Mechanics	9	17.3
Hairdressing	7	13.5
Carpentry	4	7.7
Leather work	2	3.8
Building technology	5	9.6
metal processing	3	5.8
ICT	3	5.8
Agriculture	1	1.9
Plumbing	1	1.9
Total	**52**	**100.0**

The results presented in Table 4.5 revealed that 23.1%, 17.3% and 13.5% of the instructors have academic specialization in dress making, motor vehicle mechanics and hair dressing respectively. The findings implied that that majority of the VETCs offer trades related to the areas of specialization of the instructors. It meant that students' selection of the course or trade to enrol was likely to be influenced by the availability of instructors in the various areas of specialization. The findings further revealed that

the courses and trades in most of the VETCs which do not have trained instructors were less likely to attract potential trainees. Hence, the supply of trained graduates in dress making, motor vehicle mechanics and hair dressing was likely to be higher compared to other artisan courses such as plumbing, agriculture, Information, Communication Technology (ICT), metal processing and leather work.

The results demonstrated that the trainers who have specialized training in building technology, carpentry, metal processing and ICT comprise of 9.6%, 7.7%, 5.8% and 5.8% respectively. The findings implied that most VETCs do not have adequate number of qualified instructors and therefore, the enrolment rates of trainees in these courses are likely to be low. Similarly, the instructor trainee ratio is likely to high at VETCs where enrolment is high. In such circumstances, the individualized attention for trainees could be limited, which in turn can compromise the quality of training. Such a situation could result into channelling out graduates from VETCs who are not adequately equipped with practical employable skills.

The findings revealed that instructors with specialized training in leather work, agriculture and plumbing who are represented by 3.8%, 1.9% and 1.9% respectively were not available in most of the VETCs. The findings implied that these courses were likely to remain unattractive to majority of potential trainees. Hence, the supply of well trained and skilled graduates may not meet the ever-increasing demand of such work force in the labour market. Unless concerted and consisted efforts are invested, there are possibilities of continuing lacking these critical skills both in the formal and informal sectors of the economy.

4.4: Teaching Experience

The study sought to establish the teaching experience of the instructors. Requisite experience was considered to necessary in enhancing the process of equipping the

trainees with practical knowledge, relevant skills, competencies, acceptable values and attitudes required in the ever-changing labour market needs. Therefore, instructors were asked to indicate their teaching experience; the obtained information was tabulated as depicted in Table 4.6

Table 4.6: Teaching Experience of Instructors

Experience in Years	Frequency	Valid Percent
1-3 years	7	13.7
4-6 years	15	29.4
7-9years	9	17.6
over 10 years	20	39.2
Total	**52**	**100.0**

The results in Table 4.6 showed that 39.2% of the instructors have a teaching experience of over 10 years. The findings revealed that a good number of instructors have enormous teaching experience that is instrumental in promoting quality training. These findings demonstrated that there is need to continue to attract and retain experienced instructors in VETCs to enhance training achievement of trainees. Experienced trainers have the ability to support the trainees in their quest to acquire, develop and advance necessary employability and entrepreneurial skills. In addition, instructors with high stock of experience can be beneficial and supportive in enriching the teaching skills and competencies of their less experienced colleagues. More importantly, the findings reveal stock of stable and adequately experienced instructors is instrumental in enhancing enrolment, retention and completion rates of trainees as well as in improving the quality training at VETCs for the benefit of trainees.

These results are consistent with Podolsky, Kini and Hammond (2019) who reviewed 30 studies examining the effects of teaching experience on student achievement and found out that there is a strong positive correlation between teaching experience and

teacher effectiveness. These researchers also found out that teachers continue to build human capital as they advance in their career. These studies consistently found a positive and significant relationship between teaching experience and student gains on standardized tests. These findings revealed that efficient and effective instructors play a critical role in facilitating and guiding the instructional and training process at VETCs. Nonetheless, an experienced instructor takes professional responsibility for his or her mission and duties. As a result, the instructor is likely to be courteous and devoted to education based on understanding and love for the trainee. Similarly, the instructor is likely to be diligent in executing his or her duties, and acts as a role model. He or she can be eager and committed to improve pedagogical techniques, and creatively uses available instructional resources and facilities for the benefit of the trainees. In addition, the instructor can also be enthusiastic about education and training that builds and develops the character and personality of the trainees.

4.5: An Assessment of the Stakeholders' Perceptions towards TVET on Efficiency in Skills Development at VETCs

The first objective of this study was to establish how the stakeholders' perception towards TVET affects skills development at VETCs in Kisii County. Descriptive and inferential statistics methods were used to analyse data that was collected from the respondents. The stakeholders' perceptions towards vocational education and training as the independent variable whist efficiency in skills development as the dependent variable. It is important to note that the description of the stakeholders' attitude was important in comprehending the enrolment rates, dropout rates, repetition rates, retention rates and completion rates in various vocational training institutions in Kisii county. The principals of VETCs were among the key informants and their responses are captured in Table 4.7.

Table 4.7: Principals' Views on Stakeholders' Perceptions towards TVET

Public Attitude	Frequency	Valid Percent
Public have negative attitude towards TVET	8	42.9
Public believe TVETs are for K.C.P.E failures	2	14.3
TVET do not assist the youths to access employment	4	42.9
Total	**14**	**100.0**

Results presented in Table 4.7 showed that 42.9% of the principals revealed that the majority of the stakeholders had negative perceptions towards Vocational Education and Training (VET). The findings showed explicitly that VET has a low image and therefore it still remains largely unattractive to most of the stakeholders in Kisii county. Additionally, it can be argued that the low enrolment rates among the youths experienced at majority of the VETCs can be associated to the stakeholders' negative perception towards vocational education and training. The findings further revealed that general education is preferred to vocational education and training by majority of the stakeholders in the county. This means that unless deliberate efforts are made to change this negative attitude towards TVET, majority of the stakeholder will continue to commit their resources to investments in general education at the expense of VET in spite of the increasing rates of unemployment among general education graduates.

The results in Table 4.7 further showed that 42.9% of principals were in agreement that the negative attitude can be attributed to people believe that the training does not help youths to access employment opportunities in the modern formal sector of the economy. These findings demonstrate the poor and low enrolment, retention and completion rates at various vocational education and training centres could be associated to the existing negative attitude by the public towards TVET. These findings are in agreement with a study by Adewale (2018) that confirmed that although members of the society were

aware of the benefits of vocational education, they preferred their children to enrol for general formal education because of the prestige associated with it.

Similarly, the findings of the study were in agreement with views that were obtained from three key respondents who were interviewed. The interviewees provided the following responses on the stakeholders' perceptions towards VET on efficiency in skills development:

Respondent number one:

> *"The public and more particularly the youth generally have negative attitude towards TVET. Most of them regard it as a training that is best suited for low academic achieves".*

Respondent number two:

> *"The courses offered in most Vocational Training Centres (VTCs) are old fashioned that do not reflect the changing labour market needs".*

Respondent number three:

> *"The parents generally view VET as an option of last resort. They prefer general education to VET. This negative perception has adversely affected attraction of potential trainees and therefore negatively affected enrolment and participation rates at most of the VTCs in Kisii County".*

These findings confirmed that majority of the stakeholders in the county perceived that vocational education and training is meant for populations with low intellectual ability and 'academic failures'. Consequently, parents cannot encourage their children to pursue career in vocational education and training. Consequently, these findings demonstrated that it is imperative for the county government in partnership with other stakeholders in the society to create awareness and sensitize the general public on the role and value of vocational education and training in mitigating poverty social

inequalities, and unemployment as well as its place in enhancing socioeconomic development in general.

However, the study did not find adequate evidence to show the efforts that had been by the county government to address the existing negative perceptions towards VET. In addition, the steps that were being taken towards educating the public on the importance of vocational education and training. This means that the going forward, the county government could need to pay special attention and continue to play a leading role in championing and advocating for attitude towards VET. This observation is in concurrence with a study by Adewala et.al. (2018) which confirmed that the government of federal republic of Nigeria has not only failed to educate its citizens on the role of VET, but also hasn't provided the required financial support to the institutions to attract students. The implication of the finding of the current study was that unless deliberate efforts are made to change this negative attitude towards VET, it could remain a major challenge towards improving efficiency in skills development at VET institutions.

The study further sought to establish the instructors' understanding of the school community's perception towards VET. The obtained information was depicted in Figure 4.1

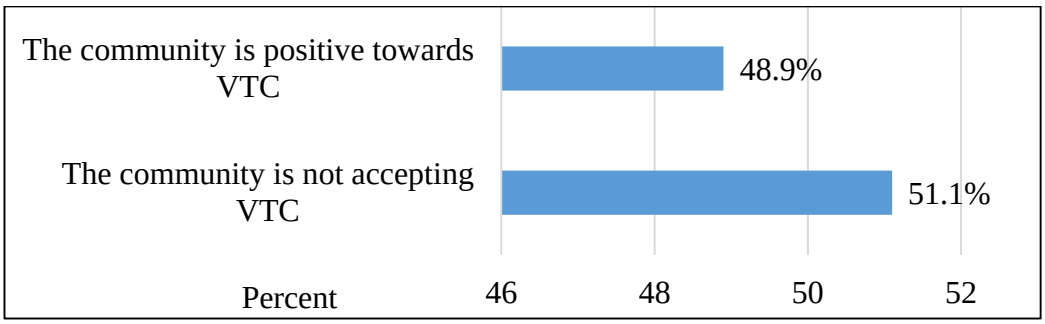


Figure 4.1: Instructors' Views on the Community's perceptions towards TVET

Results in Figure 4.1 showed that 48.9% of the instructors revealed that the community has a positive attitude towards VET. The findings implied that quite a number of the

community members have embraced the training. They consider VET to be an important avenue that can be used to enable the trainees to acquire practical knowledge, skills and competencies that demanded by the labour market. The training also offers adults with opportunities for lifelong learning in line with Sustainable Development Goals. As a result, the training could play a key role in reducing the rate of crimes in the community through economic empowerment of the graduates. This finding is in concurrence with Kisii County Integrated Development Plan (2023-2027), which recognizes the need to improve access to quality VET training with an aim of generating skills human capital for economic empowerment (Kisii County Government, 2023). Additionally, the study finding is also in agreement with the World Development Report (2013) that asserted that VET provides opportunities for youths as well as adults to acquire relevant skills, including technical and vocational skills, for employment, decent jobs entrepreneurship and informal employment.

The results in figure 4.1 on the other hand, also showed that 51.1% of the instructors revealed that part of the community members had a negative perception towards TVET. The findings implied that some community members consider the training to be inferior, outdated and less prestigious compared to general education. This finding implies that, the community members have not played a leading role to encourage potential trainees to pursue VET course as a way of enhancing enrolment, retention and completion rates at various training centres in the county. Consequently, it could be critical to initiate and strengthen awareness and advocacy campaign programmes with an aim of sensitizing the community members on the role of VET in development. As a result, the community would be able to understand and appreciate that VET provides opportunities for the youths and adults to access lifelong training for self-empowerment as well as opens up avenues for employment and wealth creation. As a matter of fact,

the TVET sub sector provides opportunities for lifelong learning to enhance and accelerate economic growth and development across the world (Ilokanulo *at el*, 2021). Further, instructors were asked to provide justification for community's perceptions towards TVET. The obtained data was computed and results are illustrated in Table 4.8

Table 4.7: The Community's Justification on Perception towards TVET

Community Rationale	Frequency	Valid Percent
Creates jobs and decrease crime rates in the society	18	36.7
Misunderstanding of the value of technical skills	10	20.4
Youth have turned to white jobs	5	10.2
To provide more facilities and tools	4	8.2
Low entry qualification	4	8.2
Graduates become successful	3	6.1
Poor infrastructure	3	6.1
Poor financial support by parents	1	2.0
Cheap for the whole program	1	2.0
Total	**49**	**100.0**

Valid N=52

Results in Table 4.8 revealed that 36.7% of the instructors revealed that the community members who had a positive attitude towards VET believed that the training is important because it creates job opportunities and plays a critical role in crime reduction in society. This positive perception was attributed to the feeling that VET can equip the youths as well adults with employability skills needed by the labour market. The training is also important in reducing crime rates in society through economic empowerment of the graduates. These findings are incurrence with the GoK (2015) which emphasizes that the VET subsector plays an important role in meeting the skills demands for the labour market. Adewale at, el. (2018) notes one of the goals of vocational education and training is to enables trainees acquire continuous training for self-reliance, wealth creation and provision of employment.

Results in Table 4.8 also showed that 20.4% of the instructors revealed that the community members who had a negative attitude towards VET was because they have a misunderstanding about the value of technical skills for the world of work. The findings are in agreement with Adewale *at. el* (2018) who revealed that some members of the society hold the notion that VET is for the academically weak students, who lack the necessary academic requirements needed to pursue university education. As a result, the community does not consider VET as an important avenue for the youths as well as adults to acquire practical employability skills highly needed in the labour market.

It is important to emphasize the research has shown that VET institutions are incubation zones that can be used to nurture and develop effective and competent artisans needed to fill skills gaps in various sectors of the economy. However, the study finding demonstrated that vocational education and training had not received the attention it deserved in the county's human resource development policy and strategy. Therefore, it implied that strategic interventions such as awareness and advocacy programmes, have not either been initiated or strengthened to assist in addressing the existing stakeholders' negative perceptions towards VET. to ensure 100% acceptance in order to make it the. This situation calls for all key stakeholders to invest concerted efforts to reimage and reengineer the VET subsector with the goal of making it the community's top investment priority, but not, the alternative of the last resort.

The study sought to establish the trainees' response on the statements on the attitude towards TVET. The obtained information from trainees' views towards public TVET was analysed and results are presented in Table 4.9

Table 4. 8: Trainees' Views on Perceptions towards TVET

Trainee's Perceptions towards TVET	Mean	Std. Deviation
TVET is meant for people who are unable to enrol in highest academic education institution	3.9011	1.59803
Most trainees scored very low grades in primary or secondary school education	3.8351	1.29971
Most trainees scored very high grades in primary or secondary school education	3.8984	1.03972
Trainees in TVET institutions are highly respected in society	3.2324	2.51626
There is a growing perception among trainees that TVET is a preserve for the poor	3.1789	3.34119
I can encourage others to join Vocation training Centre	3.9734	.97253
My friends and relatives do not like the course I'm doing	2.6138	1.32650
There are many employment opportunities upon successful completion of the course	3.9793	1.17242

Valid N=177

Scale Mean	Description
1.00 to 1.79	Strongly Disagree
1.80 to 2.59	Disagree
2.60 to 3.39	Moderate
3.40 to 4.19	Agree
4.20 to 5.00	Strongly Agree

The results in Table 4.9 showed that majority of the trainees have moderate opinion that their friends and relatives do not like the course they are pursuing by the mean of 3.6138 supported by SD of 1.32650. The results also showed that majority of the trainees have moderate opinion that TVET is meant for people who are unable to enrol in highest academic education institutions as indicated by the mean of 3.9011 supported by SD of 1.59803. This mixed responses by the respondents seemed to suggest that that VET has not been considered by quite a number of the stakeholders to be a useful and important course. In this regard, such category of stakeholders fails to appreciate and recognize that the VET subsector equips and prepares individual trainees with the

necessary practical skills and competencies that are critically demanded in various sectors in development. As matter of fact, the UNESCO report confirmed that the vocational education and training skills and competencies are critical tools that can be employed to assist in fighting poverty, social inequality and unemployment as well as in creation and conservation of environment (UNESCO, 2004).

On the other hand, the results also showed that a section of the trainees were in agreement that there are many employment opportunities upon successful completion of the course as indicated by the mean of 3.9793 supported by SD of 1.17242. This finding implied that the trainees believe that VET institution provide avenues for acquisition of demonstrative skills, competencies and attitudes tailored to meet the specific needs of job market and industry. This finding is in concurrence with that of Altbach, Reisberg & Rumbley (2019), which revealed that TVET institutions provide opportunities for trainees to acquire and develop relevant employable skills needed in various sectors of the economy and the labour market.

The results in table 4.9 also showered that majority of the trainees agree that the respondents can encourage others to join vocation education and training centres as indicated by the mean of 3.9734 supported by SD of 0. 97253. This finding implied that given that the students have shown positive perceptions towards the training, it is possible to use them as ambassadors to enhance the image and attractiveness of VET courses.

The study sought to establish from the respondents the strategies that address the negative perceptions towards vocational education and training in order to increase

enrolment rates, participation rates and quality of VET. The principals' results are depicted in Table 4.10:

Table 4.9: Principals Proposed Strategies to Improve the Image of VET

Principals' Strategies	Frequency	Valid Percent
The Government to create job opportunities for trainees	2	16.7
Put up descent modern physical facilities (structures)	3	25.0
Employ qualified instructors	2	16.7
Provision of adequate tools and equipment	4	33.3
Graduating of trainees	1	8.3
Total	**12**	**100.0**

Valid N=14

The results in Table 4.10 showed that 33.3% of the principals indicated provision of tools and equipment could be important in improving the image of vocational education and training. This finding implies that that one of the most effective strategy of changing the existing negative attitude towards VET is to ensure adequate tools and equipment. This intervention is likely to encourage students to enrol at the VTCs. These findings also demonstrate that adequate tools and equipment will be essential in enhancing acquisition of practical and applied skills by the trainees. Hence, the quality of training will be dependent on how adequately workshops in vocational education institutions are equipped with adequate modern tools and equipment. This finding implies that well established and sufficiently equipped workshops at VTCs will provide exclusively good avenues for trainees to acquire practical skills and competencies in their different technical and vocational career pursuits.

In essence, the practical component of the curriculum can be efficiently and effectively implemented in VETCs that have functional and well-equipped workshops with the

necessary tools and equipment. These workshops will provide opportunities for trainees to conduct practical learning sessions and demonstrations that reinforces skills acquisition and advancement. This finding indicates that the implementation of the VTE curriculum need to be carefully, cautiously and intelligently interrogated to guarantee purposeful and meaningful transition from a theory-based training system to a practically oriented training system in order to attract more students.

Generally, education must prepare students for future world of work that doesn't rely solely on academic and theoretical knowledge. The administrators and managers of the VETCs must be focused on provision of tools and equipment that can ensure on effective development of practical skills and core competencies that are in high demand and necessary for success in a reconstituted future. The VTCs must therefore, focus more than academics and ensure they develop trainees holistically in line with the changing labour market needs.

The vocational training institutions should pay more attention to the development of employability skills and attitudes that will be highest are in demand in the changing labour market. This situation means that that the VETCs should go an extra mile to adequately prepare and equip trainees with practical skills to ensure that they become and remain competitive in what is likely to be a shrinking labour market. To achieve this objectives, the VECs require sufficient modern tools and equipment to enable trainees to acquire practical and transferable skills that will empower them to become resilient and be able to respond quickly to changes in the job environment. Similarly, it is significant to trainers to ensure their trainees become empowered to navigate the future labour market demand, rather than just prepare them for those jobs that currently

exist. It is for justification that VTCs should have adequate tools and equipment in order to enhance enrolment rates, participation rates and quality training.

These findings of the study are in agreement with Zhang and Cheng (2019) who asserted that vocational education and training institutions empowered with sufficient financial resources have the capacity to provide adequate training facilities, tools and equipment human and material resources to enhance, enrolment, retention and completion rates. Additionally, the World Economic Forum's projections 2020 survey showed that companies are expecting to restructure their work force in response to new technologies. The companies are likely to adopt a number of technologies in the coming years. These companies are looking to provide reskilling and upskilling opportunities to the majority of their staff (73%) cognizant of the fact that, by 2025, 44% of the skills that employees will need to perform their roles effectively will change. This projection suggested that new technologies are set to drive the future growth across all sectors of the development, as well as to demand for new job roles and skill sets.

Therefore, VETCs must have adequate tools and equipment to adequately prepare trainees to be ready for the future changing labour market skill needs. In addition, VETCs must put pay special attention on ensuring that trainees become competitive through acquisition of practical employability skills and core competencies beyond the academic curriculum. The training centres should incorporate WEF identified universal employability and soft skills as an integral part of the TVET curriculum. These skills should not be taught independently, but rather be integrated within all the areas of trade offered in VETCs.

The findings further suggest that well trained and qualified instructors require an enabling training environment with adequate tools and equipment to effectively execute their mandate. In order to develop these skills efficiently, trainees need tools and equipment for demonstrations and practice. The instructors require these tools and equipment to be able to provide trainees with frequent and specific practical assignments, daily learning engagements, formative and summative evaluations.

However, the study established that most of the VECTs in the County do not have workshops that are equipped with modern tools, equipment and other relevant training facilities. This situation has contributed to the poor image of VTCs and therefore, majority of the KCPE and KCSE graduates have not shown consistent interest in enrolling and pursuing TVET programmes in the Kisii County.

Results in Table 4.10 also showed that 25% of the principals reveal that putting up descent and modern physical facilities can act as a magnet of attracting potential trainees to enrol in VTCs. This finding implies that dilapidated physical facilities in most of the VTCs seemed to paint a negative picture about vocational training education. Consequently, the low enrolment rates in most of the VTCs can be attributed to the negative perception towards TVET institutions. It therefore means that Board of Management (BOM) and the VTC administration to plan on how the improve the standards of the dilapidated of physical facilities such as classrooms, laboratories, workshops, toilets, and administrations blocks. The buildings and other relevant infrastructural facilities are likely to enhance and reinforce the teaching and learning in the vocational education and training institutions. The infrastructural facilities and material resources are important assets that could be utilized to promote the delivery of

quality education and training. According to Ikoya & Onoyase (2008) contend that there is a positive correlation between school environment and students' attitude to schooling.

The results in Table 4.10 further showed that 16.7% of the principals reveal that employing well trained and qualified instructors can assist to change the negative attitude towards vocational education and training. The finding means that VETCs which have adequate qualified instructors has a better image and therefore can attract more students than the institution that has insufficient qualified instructors.

The implications of these finding are that VETCs need to have adequate instructors in order to elevate the status of vocational education and training. This strategy can be instrumental in attracting and retaining trainees at VETCs. Secondly, the County government has to make consistent commitment not only to recruit well trained training personnel but also ensure that all the instructors in VETCs undergo in-service training course to acquire and advance pedagogical skills. These teaching skills are important to enable the instructor to be able to follow and interpret the curriculum and to use developed learning guides to assess the progress of the trainees in acquisition of practical knowledge, employable skills, core competencies and attitudes.

The study sought to establish the steps the County Government of Kisii has taken to promote the image of VET. Therefore, the principals' views on County government initiatives to change negative attitude perception towards TVET was obtained and analysed data are presented in Table 4.11

Table 4. 10 Principals' Views on Steps Initiated for Perceptions' towards TVET

Steps Taken by County government	Responses	
	N	**Percent**
Assisted in areas of infrastructure	9	31.0%
Assisted in employment of instructor/tutor	7	24.1%
Provide tool and equipment for institution	5	17.2%
In provision of equipment	8	27.6%
Valid N	**14**	**100.0%**

The principals were asked to point out the strategic interventions that had been initiated by the county government to mitigate the existing negative perceptions towards TVET. The findings in Table 4.11 showed that 31% of the principals revealed that the county government has been providing financial support to assist in renovation of physical infrastructural facilities. The findings implied that the county government in partnership with the national government has assisted in providing funds and technical support in the maintenance of physical facilities such as classrooms, workshops and laboratories some of the VTC.

Similarly, County government has been allocating and distributing the national government conditional grant funds to the vocational education institutions to assist in the renovation of dilapidated physical facilities. This intervention has been instrumental in assisting the face lifting of the institutional physical facilities. The face lifting of the physical facilities seemed to have improved the image of the VTCs and thereby changing the negative attitude towards VET by students and parents in particular, and the community members in general. As a result of this intervention, there has been an increase in enrolment rates and participation rates in some of the

VTCs. Hence, the increase in enrolment rates and participation rates in some of the VTCs can be attributed to this strategic intervention.

The results in Table 4.11 also revealed that 27% of the principals involved in the study confirm that the county government has been at the fore front in using the national government grant funds for the provision of tools and equipment in all the functional and eligible VTCs. The study established that the capitation from the national has been used by individual VTCs in procurement of the some of the critical and important tool and equipment that are in short supply. It can be argued that the availability of these tools and equipment has also had a positive impact in changing the negative perception towards VET by potential trainees, their parents and other key stakeholders. Consequently, the trends in increasing enrolment rates, retention rates and completion rates in some of the VETCs in the county. It is our considered believe that the gaps noted by the study could effectively be addressed in the current County Integrated Development plan (2023-2027) and other future development plans.

Results in Table 4.11 also showed that 16.7% of the principals were contended that the government need to create job opportunities in order to improve the image of vocational education and training. This finding implies that some students have negative attitudes towards vocational education and training because of insufficient job opportunities is the formal sectors of the economy. Therefore, the low enrolment rates common in most VETCs in the county can be attributed to the increasing unemployment rates among VET graduates. Consequently, potential students are not attracted to enrol and pursue VET. The finding demonstrates that unemployment rates among the TVET graduates has contributed low enrolment trends common in VTC.

Consequently, it could be important for the government to puts in place practical mechanisms that can assist to increase employment opportunities both in the formal and informal sectors of the economy.

The study sought to establish the instructors' views on how the community can be sensitized about the importance of TVET. The study findings tabulated in Table 4.12.

Table 4.11: Instructors' Views on Community's Strategies towards TVET Image.

Community's Strategies	**Frequency**	**Valid Percent**
Advertisement	8	22.2
Organize education awareness and advocacy days	11	30.5
Public participation	4	27.8
Create awareness	4	11.1
To put technological and modern equipment	3	8.3
Employing graduates from TVETS	2	5.6
Give trainees government grants	1	2.8
Church leaders' involvement	1	2.8
Total	**36**	**100.0**

Valid N=52

From Table 4.12 findings showed that 48.9% of the instructors revealed that some of the community members had a negative attitude towards TVET. These findings implied that there is need to establish ways through which the negative attitude can be changed. Results in Table 4.12 showed 30.5% of the instructors indicated that there will be need organize education awareness and advocacy days. This intervention can be an important strategy to sensitize the community members who have negative attitude towards TVET.

The results in Table 4.12 also showed that 27.8% of the instructors felt that public participation can be a powerful strategy that can be employed to influence positive attitude change towards TVET. The public participation can be enhanced through

involving key stakeholders like parents in curriculum review and making important decisions on issues affecting TVET implementation and evaluation.

The results in Table 4.12 further showed that 22.2% of the instructors felt that advertisement can be a powerful mechanism that can be employed to influence positive attitude change towards TVET. This finding means that the national and county governments can use a variety of media platforms such as print media, televised media, and social media to inform and sensitize on the contribution of the TVET sector to employment creation, poverty reduction, and sustainable development. This effort is likely to change the impact of the negative perceptions of the stakeholders in the education sector have instigated the society against vocational education.

The study sought Instructors' views on National and County government interventions to change the negative perception towards TVET are shown in Table 4.13

Table 4. 12 Instructors' Interventions to Improve the Attractiveness of TVET

Interventions	Frequency	Valid Percent
National and County Government funding	10	25
The trainees go for industrial attachment	12	30.0
Provide physical, human and instructional resources	13	32.5
Educational seminars	2	5.0
Stakeholders' involvement	2	5.0
Trade fairs	1	2.5
Total	**40**	**100.0**

Valid N=52

Results in Table 4.13 showed 32.5% of the instructors indicated that there will be need to provide physical, human and instructional resources as apriority intervention to improve the attractiveness of the VET courses. These findings implied that the provision of these resource will assist to motivate potential trainees to enrol in the different VET course. In essence, trainees view these resources to me important when

making decisions to enrol and pursue the courses at VETCs. The results also showed that 30% of the instructors were in agreement that going for internship by the trainees will be a significant step in making the VET courses attractive. The implication is that industrial attachment is considered to be important because it offers trainees an opportunity not only to blend theory and practice, but also, to relate and interact with the work environment. The results in Table 4.13 further showed that 25% of the instructors were in agreement that funding by the national and county governments will be important interventions towards making the VET courses attractive. The findings implied that some potential trainees from poor households can be motivated to fail to enrol in VET courses because of difficulties in meeting the direct and indirect costs of their education. Hence, funding by both the national and county governments can act as an incentive for one to enrol.

The study sought to establish trainees' response on steps to be taken to make people to change their attitude towards VTC courses. As shown in Table 4.14.

Table 4.13: Trainees' Proposed Strategies for Attitude Change Towards TVET

Trainee's Strategies	Frequency	Valid Percent
Create self-employment opportunities	38	27.3
Working hard and succeeding in courses taken	16	11.5
Equip workshops with modern tools and equipment	14	10.1
Helping trainees find jobs	12	8.6
Showcasing the products	12	8.6
Educational seminars	11	7.9
Motivational speakers	10	7.2
Community sensitization	9	6.5
Quality and trained teachers	6	4.3
Role modelling	3	2.2
Positive attitude	3	2.2
Funding trainees to start business	2	1.4
Change of uniforms	1	.7
Improving entry qualification to KCSE	1	.7
Improving the state of VTCs	1	.7
Total	**139**	**100.0**

The results in Table 4.14 showed that 27.3% of the trainees indicate that creating self-employment opportunities in the TVET sector can assist in improving the attitude towards courses offered by Vocational Education Training institutions.

The results in Table 4.14 also showed that 11.5% of the trainees indicate hard work and successful completion of the course can assist to change the attitude positively. The findings implied that there is a positive correction between the trainees' work hard to successful complete the course undertaken and positive attitude towards courses offered by Vocational Education Training institutions.

The results in Table 4.14 further showed that 10.1% of the trainees confirm that there is a positive correction between equipping workshops with modern tools and equipment and positive attitude towards courses offered by Vocational Education Training institutions. Respondents was interviewed about the strategic interventions that have been initiated by the county government to improve the image of TVET. The interviewee number one confirmed that:

> *"The county government has set up Digital Information Communication and Technology (DICT) Centres at four VETCs; Keumbu, Nyaore, Masakwe and Nyamorumbasi to act as centres of excellence with an aim of improving the image of TVET in order to attract more trainees. Trainees been encouraged to enrol for certificate classes in ICT alongside the courses they intend to train in as a trade. This initiative has had positive outcomes as reflected by slight increase in enrolment at these VETCs".*

These findings revealed that should the county government can plan to set up Digital Information Communication and Technology (DICT) Centres in all Vocational

Education and Training Centres as a strategic intervention to improve the image of TVET. Similarly, the government need to embark on a robust sensitization and campaign programmes to change the negative attitude towards TVET by parents and potential trainees.

Respondent number one further alluded that:

> *"Recruitment and deployment of well trained and qualified to VETCs has been instrumental in boosting the image of the training. The construction and rehabilitation of workshops and classroom in some of the VETCs has considerably given them some facelift. Hence, the mind-set of the trainees and parents towards the training has had a positive change".*

The findings show that the county government has made considerate effort in mitigating the negative attitude towards TVET by the public, parents and trainees. However, the enrolment and retention rates in most VETCs is still very low. This situation calls for more commitment by various key stakeholders to support the initiatives of the county government in order to change the negative attitude towards TVET.

The study further interviewed respondent number one about the strategic interventions that can be by the county government to improve the image of TVET. The interviewee was confirmed that:

> *"The county government should demonstrate serious commitment to change the negative attitude towards TVET by being at the fore front in the construction of modern workshops and rehabilitation of dilapidated ones in most VETCs. It should also equip these workshops with adequate tools and equipment with an aim of boosting the image of the training. Similarly, the government should make more budgetary allocations in order to provide adequate qualified*

instructors to all VETCs with an aim of replacing unqualified instructors. This intervention will not only improve the status of VETCs, but also, promotes quality of the training to make it more attractive to potential trainees, parents and other key stakeholders".

The findings suggested that Kisii County Government in partnership with other key stakeholders should pay special attention to rehabilitation of dilapidated workshops and construction of modern ones in all VTCs. It may need to make more budgetary allocations to the VET sub sector with an aim of equipping the workshops with adequate tools and equipment, and to provide adequate qualified instructors to all VTCs. These strategic interventions are likely to change the negative attitude towards TVET.

The study tested the Null Hypothesis (***H*₀**) that stated, "*There exists no relationship between stakeholders' perception towards TVET and Efficiency in Skills Development"*. To achieve this, the study conducted Spearman's Correlation Test between the two variables and the results are illustrated in Table 4.15

Table4.14: Stakeholders' Perceptions towards TVET Image and Efficiency in Skills Development

Spearman's rho		Efficiency in skills development	Perception towards TVET image
Efficiency in skills development	Correlation Coefficient	1.000	.713
	Sig. (2-tailed)	.	.001**
	N	52	52
Perception towards TVET image	Correlation Coefficient	.713	1.000
	Sig. (2-tailed)	.001**	.
	N	52	52

****Correlation is significant at 0.05 level (2-tailed).**

Results in Table 4.15 showed that there exists a strong positive correlation between perceptions towards TVET image and efficiency in skills development (Spearman's rho=.713, N=52, P Value=.001). This implied that the relationship between the two variables is statistically significant ($P<.05$). Further results in Table 4.15 implied that the two variables correlate in the same direction, as the perception towards TVET image increases, the efficiency in skills develops also increases at public VETCs in Kisii County.

4.6: An Evaluation of the Enabling Delivery Environment and Efficiency in Skill Development

The second objective of this study was to: Evaluate how the enabling delivery environment affects efficiency in skills development at VETCs. The study sought to establish the principals' understanding of the relationship between the delivery environment and efficiency in skills development. The study sought responses from the respondents on human resources, physical facilities, tools and equipment, workshops, laboratories, libraries, and human resources to determine their effects on enrolment rates, participation rates and quality of training at Vocational Education and Training Centres (VETCs).

The study sought to establish the instructors' views on the statements regarding enabling delivery environment in Public VETCs. The instructor's findings are presented in Table 4.16.

Table 4.15: Instructors' Views on Enabling Delivery Environment in TVET

Statement	N	Mean	Std. Deviation
The centre has suitable facilities	51	3.1902	.70349
The instructors are highly qualified technical manpower	51	3.3137	.54736
There is good management	51	3.1176	.68256
The internship programmes are good	52	3.3269	1.06128
The curriculum adequately prepares students for the job market	52	3.1923	.68709
There is inadequate provision of training/teaching materials	51	4.2157	.90142
Government policies ensure adequate funding for VET	48	4.1923	.68709
There is adequate provision of equipment and tools	51	3.1667	.08934
Valid N	**52**		

Scale Mean	Description
1.00 to 1.79	Strongly Disagree
1.80 to 2.59	Disagree
2.60 to 3.39	Moderate
3.40 to 4.19	Agree
4.20 to 5.00	Strongly Agree

The results in Table 4.16 revealed that majority of the instructors were moderate that the Vocational Training Centres have physical facilities. These findings are supported by the mean of 3.1902 which is supported by the SD of 0.70349. The findings implied that some of the VETCs have adequate physical facilities while others did not have. It could be important for all training centres to have sufficient infrastructural facilities to enhance enrolment and retention rates as we provide suitable teaching-learning environment. This finding is in agreement with Zhang and Cheng (2019) who asserted that vocational education and training institutions empowered with sufficient financial resources have the capacity to provide adequate training facilities, tools and equipment human and material resources to enhance, enrolment, retention and completion rates.

Therefore, the finding demonstrated that availability of suitable and adequate maintenance of physical facilities such as workshops, classrooms, toilets, kitchen, dining halls, administration block, library and furniture are critical in making the teaching-learning environment conducive, friendly and attractive to the trainees and trainers. These facilities play an important role in the implementation of the curriculum of TVE. They are considered to be essential in enhancing effective teaching and learning to take place in VETCs. The findings revealed that instructors consider provision of facilities provision as a necessity in promoting effective teaching and learning in Vocational and Technical institutions. Literature demonstrates that the physical facilities are important in creating an appropriate curriculum delivery environment that can enhance effective acquisition of practical and applied knowledge, skills and competencies.

However, one of the important issues of great concern revealed by the principals is the poor state of the physical facilities in majority of the VETCs. This concern reveals that national and county governments have not provided the needed financial and material resources to assist the management of VETCs to put up state of the earth and suitable physical facilities. The provision of adequate and appropriate facilities is critical in promoting effective implementation of the VTE curriculum through providing friendly teaching and learning environment. The availability modern physical facilities will also act as incentive for potential trainees to develop a positive attitude towards technical and vocational education and training. According to Morley (2019) and Bussell (2020) TVET institutions with physical facilities such as workshops, libraries and laboratories have the capacity to attract more trainees and well as enhance the quality of training.

Consequently, there could be need to ensure that there is concerted efforts by the county government in collaboration with the national government, philanthropic individuals and institutions to provide financial and material support to VETCs. As a matter of fact, the study revealed that the smooth running of the VECTs is depended on provision of adequate and modern physical facilities to enhance teaching and learning. Nonetheless, a favourable and conducive training environment is essential in not only in attracting potential trainees to boost the low enrolment rates, but also, could be instrumental in providing a suitable learning environment that is critical in improving the process of acquisition of practical and relevant knowledge, skills, competencies and attitudes needed by trainees for gainful employment in different sectors in development. Well trained and qualified TVET graduates can contribute to the development of their immediate society and the country at large. According to the TVET Curriculum Development Assessment and Certification Council's (TVET CDACC) *Strategic Plan (2021-2025),* investment in the TVET sector is critical in realization of Kenya Vision 2030 given that skilled low and middle level human workforce is needed to drive the economy (TVET CDAC, 2021).

The results from Table 4.16 further revealed that that majority of the instructors were moderate that majority of the VETCs have qualified training staff as shown by the mean of 3.3137 which is supported by the SD of 0.54736. These findings demonstrated that the instructors in majority VETCs have average skills and competencies to promote quality instruction and training.

The findings in Table 4.16 also demonstrated that most instructors in majority of the VETCs lack necessary pedagogical skills and competencies to promote quality

instruction and training. The study strongly confirmed that the instructors are not adequately trained to effectively guide the teaching learning process. The findings implied that teaching and learning techniques employed by instructors in majority of the VETCs may not be effective in the transfer of knowledge, skills and competencies to trainees. The pedagogical techniques employed by instructors in VETCs to a great extent plays a significant role in determining the quality of training. Darling-Hammond, (2016) affirms that the effectiveness of all education systems depends critically on the quality of teaching and learning in the classrooms, workshops, laboratories and other spaces in which the education takes place. This assertion is in agreement with Mangwiro (2016) who confirmed that teaching and learning in TVET ought to be applied with the best teaching methods for effective result. The studies demonstrate that instructors who employ appropriate pedagogical methods that are trainee-centred are likely to motivate the trainees to be in control of their learning.

It can be argued that well trained instructors can improve learning outcomes through employing and utilizing innovative pedagogical methods that are useful in enabling the trainees to effectively acquire relevant and functional knowledge, practical skills, competencies, attitudes and values. The instructors have the capacity to actively engage, guide and encourage the trainees in VETCs during the training process. Hence, making it possible to facilitate effective acquisition of marketable and useful skills and competencies necessary for preparing them for the labour market.

Further, the finding of the current study suggests the need to develop appropriate policy strategy that can enhance continuous professional development of instructors in the VETCs. This approach will provide suitable and sustainable opportunities for the

instructors to acquire the needed pedagogical skills and competencies to promote quality education and training. There is need for the County Government and other key players in the TVET sector to provide necessary financial, material and human resources to enhance continuous professional development of the technical instructors. The designing, strengthening and implementation of the continuous professional development policy will be a milestone towards improving the quality of the instructors in the VTCs. This strategic action will assist improve learning outcomes. There is strong evidence suggesting that there is a positive correlation between teaching methods and learning outcomes.

The study further revealed that the instructors were moderate that the VETCs had inadequate provision of tools and equipment as indicated by the mean of 3.166 and as supported by SD of .08934. The implication is the instructors felt that the available tools and equipment were insufficient. The results further revealed that the instructors were not certain whether the provision of teaching materials were adequate on not as indicated by the mean of 3.2157 and as supported by SD of 0.90142. The findings implied that the provision of the instructional materials in some VTCs were adequate whilst in others were insufficient. It is important to ensure that all VTCs are provided with sufficient instructional materials in order to promote quality training.

The results in Table 4.16 also revealed that the instructors were in agreement that the VET curriculum adequately prepares students for the job market as indicated by the mean of 4.1923 and as supported by SD of 0. 68709. The finding demonstrates that the curriculum sufficiently covers the practical knowledge, skills and key competencies that are needed in the dynamic labour market.

Results in Table 4.16 further showed that the instructors were moderate that the there is good management in VETCs. These findings implied that the principals and Board of Management (BOM) in majority of the training institutions have average managerial and governance competencies. The study further established that the instructors were in agreement that there existed good government funding policies for VET institutions. These findings confirmed that the efforts by the national government demonstrated through consistent disbursement to the national conditional grants to county government as indicated by the mean of 4.1923 and as supported by SD of 0.68709. As such there, the finding implied that is need for the county government and the national government to collaborate with other stakeholders in order to expand the revenue base for the VETCs. Additionally, each VETC should enhance its revenue stream through diversifying the sources of income. These strategic interventions could be critical in ensuring that the VETCs have the financial capacity to procure the needed facilities and resources.

The study further sought to establish the adequacy of physical facilities in VTCs. The instructors' views were tabulated as in Table 4.17.

Table 4.17 Instructors' Responses on Adequacy of Physical Facilities

Physical facilities	**Not available**		**Inadequate**		**Adequate**	
	F	**%**	**f**	**%**	**F**	**%**
Adequacy of physical laboratories	42	84.0	7	14.0	1	2.0
Adequacy of physical internet serving rooms	40	81.6	6	12.2	3	6.1
Adequacy of preparation rooms	36	72.0	13	26.0	1	2.0
Adequacy of physical libraries	30	61.2	10	20.4	9	18.4
Adequacy of physical computer rooms	27	52.9	13	25.5	11	21.6
Adequacy of demonstration rooms	21	41.2	18	35.3	12	23.5
Adequacy of physical workshop	5	9.8	34	66.7	12	23.5
Adequacy of physical classrooms	3	6.0	28	56.0	19	38.0

Valid N=52

The results in Table 4.2 shows that 84%, 82% and 72% of instructors respectively indicated that physical laboratories, physical internet serving rooms and preparation rooms were not available. These findings demonstrated that majority of the training institutions in the county lack these important infrastructural facilities. Hence, the institutions may not be having a strong institutional capacity to provide quality training. In addition, the results further indicated that 67% and 56% of instructors respectively further confirmed that physical workshop and physical classrooms were inadequate. These findings revealed that the training institutions did not have the financial capacity to provide these important physical facilities in order to enhance the quality of skills development.

The results in Table 4.17 further shows that 66.7% of the instructors indicated that the workshops were insufficient whilst the other 9.8% of them indicated that some of the VET institutions did not have workshops. In addition, 56% of the instructors indicated that the classrooms were not adequate whilst the other 6% of them indicated that some of the VET institutions the classrooms were not available. These findings implied that majority of public VET institutions in Kisii County do not have the necessary capacity to provide opportunities for trainees to engage in important scientific experiments and activities. Such teaching and learning delivery environment fails to provide instructors with appropriate and adequate physical facilities to facilitate the instructional process in order to enable the trainees have stimulating opportunities to enhance acquisition of fundamental scientific, innovative, creative and problem-solving skills, knowledge and competencies.

Further, these findings implied that majority of the VET institutions are not Information Communication Technology (ICT) complaint. For example, internet services are considered critical in enabling staff and trainees to access important educational information and materials. Therefore, the internet provides significant platforms to access wealth of information and teaching and learning resources. It also provides more avenues for learning in and beyond the classrooms. These findings are supported by Ala-Mutka & Kirsti (2009) who confirm that the Internet significantly expand the boundaries of learning through visualization, data and concepts which facilitates the comprehension and the assimilation of information.

On the other hand, the study sought information from instructors to establish the adequacy of workshop tools and equipment in public TVET, the obtained results are depicted in Table 4.18.

Table 4.18: Instructors' Responses on Adequacy of Workshops, Tools and Equipment

Tools & Equipment	Not available		Inadequate		Adequate	
	f	%	f	%	f	%
Adequacy of the computers	19	36.5	18	34.6	15	28.8
Adequacy of the photocopier	13	26	25	50	12	24
Adequacy of the machinery	8	16.0	32	64.0	10	20
Adequacy of the workshop equipment	2	3.8	32	61.5	18	34.6
Adequacy of the workshop	1	2.0	52	49.0	25	49.0

In addition, the results Table 4.18 further showed that 64%, 61.5% and 49% of instructors respectively revealed that the training institutions did not have sufficient machinery, workshop equipment and workshop. Similarly, the results also revealed that 50% of the instructors confirmed that the photocopier machines were inadequate. As a result, the final year technician trainees were

not able to acquire necessary practical skills. Therefore, the findings implied that majority of the vocational education training institutions in Kisii County did not have the capacity to adequately produce paper copies of instructional materials and other important office documents. This result is compatible to Okemwa's (2022) study on *The Influence of Electronics Laboratory Practices on Skill Acquisition by Technician Trainees in Nairobi County, Kenya* that found out that the TVET institutions lacked proper and adequate training laboratories, equipment, tools and materials.

The study sought to establish from the trainees about their experience in line with enabling delivery environment in public TVET. The trainees' obtained information was analysed and results are presented in Table 4.17

Table 4.16: Trainee's Responses on Delivery Environment

Delivery Environment	Mean	Std. Deviation
Rate your experience in line with mode of delivery	2.408	.98411
Rate your experience in line with duration for the course	2.681	.97853
Rate your experience in line with classrooms are spacious and well lit	3.257	1.12742
Rate your experience in line with workshops are safe and well equipped	3.432	1.04902
Rate your experience in line with computer labs don't have modern equipment	3.880	1.16224
indicate if workshop training areas are spacious	3.288	1.01775
Rate your experience in line with workshop training areas are spacious	2.758	1.02128
Rate your experience in line with supervision of project work is adequate	2.524	1.15701

Mean Scale	Description
1.00 to 1.79	Excellent
1.80 to 2.59	Very good
2.60 to 3.39	Good
3.40 to 4.19	Satisfactory
4.20 to 5.00	Poor

The results in Table 4.17 showed that the rating of experience in computer laboratories don't have modern equipment was satisfactory as indicated by the mean of 3.8870 supported by SD of 1.16224. The findings implied that most of the computer laboratories do not have modern equipment in public TVET in Kisii County.

The study sought establish from the Trainees about their experience in line with workshops are safe and well equipped**.** The results in Table 4.17 showed that the rating of experience of majority of the trainees was satisfactory as indicated by the mean of 3.4302 supported by SD of 1.04902. The finding implies that most of the workshops did were fairly safe and equipped. The finding implies that most of the workshops were not adequately equipped with the state of the earth facilities, tools and equipment. The results in Table 4.17 further showed that the rating of experience of majority of the trainees was satisfactory as indicated by the mean of 3.4302 supported by SD of 1.04902. The findings implied that most of the workshops did were fairly safe and equipped. The finding implies that most of the workshops were not adequately equipped with the state of the earth facilities, tools and equipment.

The study sought establish from the trainees about their experience in line with classrooms are spacious and well it**.** The results showed that the rating experience of majority of the trainees was good as indicated by the mean of 3.2597 supported by SD of 1.12742. The finding implies that most of the classrooms were adequately spacious and with sufficient sources of light. The finding implies that most of the classroom were conducive for teaching, learning and demonstration.

The study sought establish from the Trainees' whether the workshop training areas were spacious**.** The results showed that the rating experience of majority of the trainees was good as indicated by the mean of 3.2881 supported by SD of 1.101775. The finding implies that most of the classrooms were adequately spacious and with sufficient sources of light. The finding implies that most of the classroom were conducive for teaching, learning and demonstration.

The study sought to establish from the trainees about their experience in line with mode of delivery. The results showed that the rating experience of majority of the trainees was very good as indicated by the mean of 2.4098 supported by SD of 0.98411. The finding implies that most of the instructors were able to select and use appropriate modes of training that met the interests of the trainees.

4.6.1 The Adequacy of Physical Facilities in TVET

The study sought to find out from the principals the conditions of the physical facilities in VTCs in the County. The majority of principals at 83.3% revealed that condition of workshop tools was old-fashioned and inappropriate to support development of labour market skills. The importance of vocational training institutions to have well-functioning facilities and appropriate equipment must cannot have overemphasized.

The results have demonstrated that the physical facilities are outdated and unsuitable to enhance efficiency and quality of the training to enable the trainees to acquire appropriate practical knowledge and skills required by the dynamic labour market. In addition, given that majority of VTCs in the Kisii County have insufficient modern and appropriate physical infrastructural facilities reveals that investment in the TVET sector has been inadequate over the years.

The study confirms the findings of survey carried out in 2014 that revealed that enrolment of trainees in most technical institutions was extremely low because most the vocational and technical institutions were in dilapidated state and inadequate infrastructural facilities, human resources and funding (Moranga, Maroria & Nyakal 2014, Riechi, et al. 2014; Ministry of Education Kisii County, 2015). The county government seems not to have taken serious commitment to improve and expand the capacity of the vocational and training institutions.

The study sought to establish the adequacy of physical facilities in VTCs. The instructors' views were tabulated as in Table 4.18

Table 4. 17 Instructors' Responses on Adequacy of Physical Facilities

Physical facilities	Not available		Inadequate		Adequate	
	f	%	f	%	f	%
Adequacy of physical laboratories	42	84.0	7	14.0	1	2.0
Adequacy of physical internet serving rooms	40	81.6	6	12.2	3	6.1
Adequacy of preparation rooms	36	72.0	13	26.0	1	2.0
Adequacy of physical libraries	30	61.2	10	20.4	9	18.4
Adequacy of physical computer rooms	27	52.9	13	25.5	11	21.6
Adequacy of demonstration rooms	21	41.2	18	35.3	12	23.5
Adequacy of physical workshop	5	9.8	34	66.7	12	23.5
Adequacy of physical classrooms	3	6.0	28	56.0	19	38.0

Valid N=52

The results in Table 4.18 revealed that 84%, 82% and 72% of instructors respectively indicated that physical laboratories, physical internet serving rooms and preparation rooms were not available. These findings demonstrated that majority of the training institutions in the county lack these important infrastructural facilities. Hence, the institutions may not be having a strong institutional capacity to provide quality training.

In addition, results in table 4.18 revealed that 61%, 53% and 41% of instructors respectively confirmed that the training institutions did not have physical libraries, physical computer rooms and demonstration rooms. Similarly, the results further indicated that 67% and 56% of instructors respectively further confirmed that physical workshop and physical classrooms were inadequate. These findings revealed that the training institutions did not have the financial capacity to provide these important physical facilities in order to enhance the quality of skills development.

Further, the results in Table 4.18 showed that 66.7% of the instructors indicated that the workshops were insufficient whilst the other 9.8% of them indicated that some of the VETCs did not have workshops. Moreover, 35.3% of instructors indicated that some of the VETCs did not have sufficient demonstration rooms. In addition, the results in Table 4.17 revealed that 56% of the instructors indicated that the classrooms were not adequate whilst the other 6% of them indicated that some of the VEETCs the classrooms were not available. These findings implied that majority of public VETCs in Kisii County do not have the necessary capacity to provide opportunities for trainees to engage in important scientific experiments and activities. Such teaching and learning delivery environment fails to provide instructors to facilitate the instructional process in order to enable the trainees have stimulating opportunities to enhance acquisition of fundamental scientific, innovative, creative and problem-solving skills, knowledge and competencies.

Further, these findings implied that majority of the VTCs are not ICT complaint. Internet services are critical in enabling staff and trainees to access important educational information and materials. The internet provides significant platforms to

access wealth of information and teaching and learning resources. It also provides more avenues for learning in and beyond the classrooms.

Notably, the instructors' findings were in agreement with the responses that were obtained from the principals which revealed that majority of the training institutions lacked the necessary infrastructural facilities. These means that the institutions did not have adequate financial capacity to provide adequate infrastructural facilities needed to promote quality training. These findings implied that the trainees in majority of the training institutions either are congested in the available classrooms or use make shift classrooms. It is important to note that adequate classroom provide suitable environment that can encourage collaborative learning and teamwork that are crucial in building social capital.

Further, the study sought information from instructors to establish the adequacy of workshop tools and equipment in public TVET, the obtained results are depicted in Table 4.19

Table 4.18: Instructors' Responses on Adequacy of Workshops, Tools and Equipment

Tools & Equipment	**Not available**		**Inadequate**		**Adequate**	
	f	**%**	**f**	**%**	**f**	**%**
Adequacy of the computers	19	36.5	18	34.6	15	28.8
Adequacy of the photocopier	13	26	25	50	12	24
Adequacy of the machinery	8	16.0	32	64.0	10	20
Adequacy of the workshop equipment	2	3.8	32	61.5	18	34.6
Adequacy of the workshop	1	2.0	52	49.0	25	49.0

The results in Table 4.19 showed 36.5%, 26% and 16% of instructors were in agreement that TVET institutions did not have computers, photocopier and machinery respectively. These means that the institutions did not have adequate financial capacity to procure computers, photocopiers and machinery needed to promote quality training.

In addition, the results Table 4.19 further showed that 64%, 61.5% and 49% of instructors respectively revealed that the training institutions did not have sufficient machinery, workshop equipment and workshop. These findings are in agreement with the responses of the principals. The results in Table 4.19 also revealed that 50% of the instructors confirmed that the photocopier machines were inadequate. The findings implied that majority of the training institutions in Kisii County did not have the capacity to adequately produce paper copies of instructional materials and other important office documents.

On the other hand, the study sought to determine the state and condition of tools and equipment in the VTCs. The principals' views on adequacy and appropriateness of physical facilities in vocational training institutions were computed and results was presented in Table 4.20.

Table 4.20: Principals' Views on Adequacy and Appropriateness of Physical Facilities

Physical facilities	Frequency	Not available	frequency	Inadequate
	f	%	f	%
Adequacy of modern laboratories	12	92.3	1	7.7
Adequacy of libraries	11	84.6	2	15.4
adequacy of preparation rooms for practical lessons	11	84.6	2	15.4
Adequacy of physical internet serving rooms	11	84.6	2	15.4
Adequacy of demonstration rooms	9	69.2	3	23.1
Adequacy of physical computer rooms	7	53.8	5	38.5
Valid N	**14**			

The results in Table 4.20 showed that 92.3% of the principals revealed that majority of the VETCs do not have functional and established laboratories. This finding implies that science and technology related courses are theoretically taught. Most of the VET institutions in the county do not have laboratories that can support digitalization of Vocational Education and Training (VET). Such a situation denies trainees access to digital content during practical sessions. Thus, it may not be possible to adequately prepare and equip trainees with digital skills that are required in the changing labour market. The success of any VET programme or trade is the focus on skills development that is grounded on hands-on training. This learning experience is critical in assisting trainees to acquire practical knowledge, skills and competencies that are useful in the world of work.

The findings further revealed that the county government has not adequately invested in the construction and equipping laboratories in majority of the VETCs to promote hands-on training in these institutions. This implies that since most of the VETCs do not have laboratories, it is not possible to use digital education tools such as computers and online learning management systems that are important in providing digital-TVET solutions to overcome emerging issues and challenges. For example, the COVID-19 pandemic has caused disruptions in all education and training institutions globally.

Most of the training institutions have been forced to resort to start using digital educations tools like online and offline learning management systems to overcome challenges brought about by the COVID-19 pandemic. If the evidence provided by the principals about lack of laboratories is something to go by, then the pandemic has caused negative consequences in majority of the VET institutions in the county. It is difficulty to visualize to a return to normalcy anytime soon. Unfortunately, majority of the VETCs in the county cannot access well established laboratories for effective and efficient use of digital education tools to enhance online and offline training management systems. This type of engagements isn't possible since inadequate funds allocated to virtually all VTCs for digitalizing the teaching-learning process in the VTCs. Basically, the county government need to initiate and develop robust strategies of mitigating the existing digital divide that is real and prevalent in most of these training institutions.

The results in Table 4.20 further showed that 84.6% of the principals revealed that majority of the VETCs do not have physical internet serving rooms. This implies that majority of trainees in these VETCs are not able to access a wealth of digital information, knowledge and other useful education and training resource materials. This age of digitalization of education and training requires that all VETCs need to

internet serving room spaces to house computers, tablets and other ICT-related devices to promote internet-enabled learning. These finding is in agreement with Efstratios P *et al* (2010) study *The Contribution of the Internet into Learning* in Greece which found out that more than the 50% of the students believe that the Internet helps to improve their academic performance, increases their motivation for learning and permits and facilitates independent learning similarly, the study noted that Internet learning and enhances their critical thinking and self-esteem, and satisfies learners' needs and interests more effectively. Therefore, construction and maintaining of secure internet serving rooms in VETCs require capital and operational expenditures. Lack of internet serving rooms in most of the VETCs reveals that the county government has not been factoring these funds into its annual budget.

The results in Table 4.20 showed that majority of the principals constituting of 84.6% confirm that many of the VETCs do not have preparation rooms for practical lessons. The implication is that these centers have no extra room space allocated to instructors to facilitate effective preparation for practical applied VET. This kind of environment cannot be considered to be conducive for thorough preparation by the instructors before engaging trainees in practical work. It could be important for designing appropriate strategies of raising funds that could be used to construct the missing preparation rooms in the VETCs.

On the other hand, the results in Table 4.20 also showed that 84.6% of the principals revealed that majority of the VETCs do not have physical libraries. This implied that these VTCs do not have space for storing instructional and training material resources. The quality of education and training is likely to be compromised given the fact that libraries complement the VETC by offering access to a variety of teaching-learning materials for both instructors and trainees. Similarly, a well-established and equipped

library is instrumental in encouraging private study by both instructors and trainees. Such a library can also be important for providing opportunities for developing a strong foundation for a good reading culture by both the instructors and trainees. The findings suggest that it is critical for VETCs to be assisted financially to be able to have well-established and equipped libraries. This financing strategy could be critical in enabling libraries to complement VETCs in enhancing effective acquisitions of necessary knowledge, employability skills, competences and attitudes needed in the future world of work.

The results from Table 4.20 showed 69.2% of the VETCs do not have sufficient demonstration rooms. This finding implies that trainees do not have adequate opportunities to learn through making observations. The finding is compatible with Sweeder and Jeffery's (2013) finding that demonstrations, if planned properly, and if they are effectively integrated into the learning process can enrich the learner's understanding of subject. Similarly, the result is in agreement with Ahmad, Naji, & Aviv's (2016) finding that established that the use of demonstrations helps students to better understand the subject of matter, improves their perceptions of their learning efficiency, and also enhances their academic achievements.

In this regard, demonstration technique is an important training strategy in aiding trainees to develop in-depth comprehension of the subject area. The technique also helps trainees to be actively engaged in the teaching-learning process. Therefore, demonstration is a powerful method of learning that can enhance permanent and reflective learning. In this connection, since majority of the VET institutions do not have enough demonstration rooms, the trainees are mostly exposed to theoretical training. As a result, the institutions may be lacking appropriate learning environment to enhance effective acquisition of practical and applied skills.

The study also sought to establish the principals' responses on training resources, facilities and equipment that are not available but which they considered to be important for VETC. In this regard, the principals were asked to indicate the unavailable physical facilities and equipment in public vocational training institutions. The obtained data was calculated and the results are demonstrated in Figure 4.1

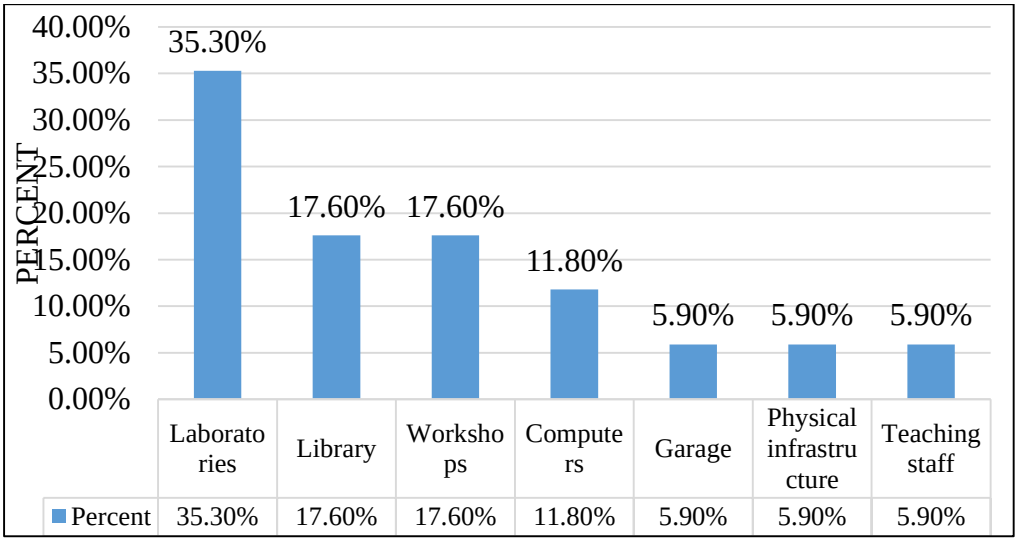


Figure 4.2: Principals' Views on Unavailable Physical Facilities and Equipment in VET institutions

The results in Figure 4.1 showed 35.3%, 17.6% and 17.6% of the principals respectively revealed that some of the VETC institutions do not have laboratories, libraries and workshops. These findings implied that the institutions have no space and capacity to store and use the available tools, equipment and machinery. This result is supported by Okemwa's (2022) study on *The Influence of Electronics Laboratory Practices on Skill Acquisition by Technician Trainees in Nairobi County, Kenya* that found out that the TVET institutions lacked proper and adequate training laboratories. As a result, final year technician trainees were not able to acquire necessary practical skills.

The study sought information from principals on the inventions by TVET to address the inadequacy of training resources facilities in TVET. The obtained data from principals' views was computed and results are depicted in Table 4.21

Table 4.21: Principals' Interventions to Address the Inadequacy of Training Resource Facilities

Principals' interventions	**Responses**	
	N	**Percent**
The VCT to create Production Unit	5	35.7%
Put more infrastructure in place	5	35.7%
Training in shift	1	7.1%
Seek donor funding	1	7.1%
Income generating activities within institution	1	7.1%
Government funding	1	7.1%
Valid N	**14**	**100.0%**

The results in Table 4.22 showed that some of principals at 35.7% revealed that the inadequacy of training facilities and resources can addressed by creating production units by VETCs. These findings implied that initiating income generating projects by individual VETCs can assist raise extra revenue that can be used to procure adequate training facilities and resources. This initiative can assist VETCs reduce the high dependency on the revenue from the county and national governments.

The principals' views on the initiatives by stakeholders for expansion of infrastructural facilities in TVET. The analysis principal's data was illustrated in Table 4.23.

Table 4.23: Principals' Responses on Stakeholders' initiatives on Expansion of Infrastructural Facilities

Stakeholders' Initiatives	Responses	
	N	Percent
Construction of workshop	5	27.8%
Bursaries and subsidy from local and National Government.	4	22.2%
Looking for well-wishers and Alumni	5	16.7%
Alumni fund drive	2	11.1%
Employ qualified trainers	2	11.1%
Production unit	1	5.6%
Build hostels for boarders	1	5.6%
Valid N	**14**	**100.0%**

Results in Table 4.23 demonstrated that principals' responses on stakeholders' initiatives on construction of workshop was 27.8%. Bursaries and subsidy from local and National Government was 22.2%. Looking for NGOs/well-wishers/partners was 16.7%. Alumni fund drive and employ qualified trainers at 11.1% each. Further, Production unit and build hostels for boarders tied at 5.6% in public TVET in Kisii County. These findings revealed that

The study sought strategies by County government for provision of resources and facilities in public TVET. The principals' views were presented in Table 4.24

Table 4.24: Principals' Views on County Government's Strategies for Provision of Resources by to VTC

Strategies by County Government	Responses	
	N	Percent
To provide more funds for infrastructure	9	36.0%
To employ enough teaching staff	6	24.0%
To ensure that supervision in all areas is achieved	4	16.0%
More infrastructures to be added	5	20.0%
Campaign on the VTC	1	4.0%
Valid N	**14**	**100.0%**

The results in Table 4.24 showed principals revealed that County government should strategize to provide more funds for infrastructure at 36%.To employ enough teaching staff at 24.0%.To ensure that supervision in all areas is achieved at 16.0%.To provide more infrastructures to be added at 20.0%.Further, to campaign and create awareness to public on TVET was 4%.These findings implied if these strategies are implemented then the attitude towards TVET will change and becomes more attractive for trainees.

The study sought instructors' views on the strategies for provision of training resources and facilities in TVET. The obtained information was presented in Table 4.25

Table 4.25 Instructors' Views on Strategies for Provision of Training facilities

Strategies	**Frequency**	**Valid Percent**
Funding by County government	23	52.3
To involve well-wishers, alumna & donations	5	20.5
Periodic audits by Government	4	9.1
Start income generating projects	3	6.8
More trained instructors	2	4.5
More equipment	1	2.3
Raise funds through fundraiser	1	2.3
Proper utilization of available funds	1	2.3
Total	**44**	**100.0**

Valid N=52

The results presented in Table 4.25 showed that 52.3% and 20.5% of the instructors revealed that funding by the county government, well-wishers, alumna and donations by other key stakeholder can serve as important strategic interventions in the provision of adequate training resources and facilities. The instructor felt that it is the social obligation of the county government to work closely in partnership of other key stakeholder in society to finance VET. Effective Implementation of CBET curriculum in VTCs order to meeting the Education 2030 agenda demands huge resources training and facilities. This strategic objective requires special attention to financing of VET

institutions. Therefore, the county government and stakeholders need to innovatively plan on how to come up with intelligent techniques for diversifying sources of revenue to help in the provision resources and facilities.

The study sought to establish the student-instructor ratio to understand the distribution of students against the instructors per course undertaken in public TVET. This aimed to understand the adequacy of instructors allocated per course in line with enabling delivery environment. The principals' responses were computed and the results are tabulated in Table 4.26.

Table 4. 26 Principals' Responses on Student-Instructor Ratio per Course

Course	Average Student-Instructor Ratio
Fashion design	17:1
Electric instalment	11:1
ICT course	17:1
Metal work	19:1
Motor Vehicle mechanic	11:1
Masonry	17:1
Carpentry	5:1
Hairdressing	18:1
Leather work	5:1
Plumbing	24:1
Food processing	3:1
Agri-business	15:1

Valid N=14

From Table 4.26 the study revealed that most of principals indicated that the average student-instructor ratio was inadequate in TVET. This meant most of courses offered suffered from inadequate instructors as per UNESCO guideline that 10:1 to enable a delivery environment in Public TVET. Therefore, as the guideline only a few courses such as carpentry course, leather work course and food processing course fall under the standard ratio of 10:1 while as most of courses bleached the UNESCO ratio. According to the TVETA (2018), TVET training in Kenya is of low quality caused by inadequate trainers.

The study tested the Null Hypothesis (***H₀***) that stated, "*There exists no relationship between delivery environment and Efficiency in Skills Development''*. To achieve this, the study conducted Spearman's Correlation Test between the two variables and the results were illustrated in Table 4.27.

Table 4.27: Delivery Environment and Efficiency in Skills Development

Spearman's rho		**Efficiency in skills development**	**Delivery environment**
Efficiency in skills development	Correlation Coefficient	1.000	.671
	Sig. (2-tailed)	.	.003**
	N	52	52
Delivery environment	Correlation Coefficient	.671	1.000
	Sig. (2-tailed)	.003**	.
	N	52	52

****. Correlation is significant at 0.05 level (2-tailed).**

Results in Table 4.27 showed that there exists a strong positive correlation between delivery environment and efficiency in skills development (Spearman's rho=.671, N=52, P Value=.003). This implied that the relationship between the two variables was statistically significant (P<.05).

Further results in Table 4.27 implied that the two variables correlate in the same direction, as the delivery environment increases also the efficiency in skills develops increases in public TVET institutions in Kisii County. Notably, the inferential statistics obtained from instructors are supported by principals and trainees' descriptive statistics on delivery environment on efficiency in skills development in public TVET in Kisii County.

4.7: An Assessment of Industry-Institution linkages and Efficiency in Skills Development

The third objective of this study was to: An assessment of Industry-institution linkages and efficiency in skills development at VECTs. The study sought to establish the respondents' understanding of the relationship industrial attachment or internship and efficiency in skills development.

As a result, the study sought responses from the respondents on the importance of partnerships between the industry and vocational education and training institutions. Similarly, sought to establish from the respondent strategic interventions that can be initiated by various stakeholders to strengthen industry-vocational education training institutions linkages. These linkage and partnership components were considered by the study to be significant in to determining enrolment rates, participation rates and quality of training at VETCs.

Consequently. The study sought to establish the instructors' views on importance of industry-institution linkages, physical and human resources on skills development. The computed results are presented in Table 4.28

Table 4.28: Instructors' Views on Significance of Industry-institution linkages and Partnerships

Statement	YES		NO	
	f	%	f	%
Do you consider industry-institution partnership important in improving skills development	42	97.7	1	2.3
Does the course/trade you teach have adequate teaching and learning facilities	23	46.9	26	53.1
Does the course/trade you teach have training facilities and equipment	24	51.1	23	48.9
Does the course/trade you teach have qualified instructors	43	93.5	3	6.5
Does the course/trade you teach have physical facilities	22	50.0	22	50.0
Valid N	**56**			

From Table 4.28, results revealed that 97.7% of the instructors confirmed that industry-institution linkages and partnerships were critical in improving skills development in VTCs. The instructors confirmed that the industrial attachment assist the student trainees to have work related experience. This finding implied that establishing, strengthening and sustaining linkages, partnerships and collaborations between VETCs and industry is considered to be a top policy priority for all VTCs. It also meant that industrial attachment programmes could provide suitable interaction opportunities, which would be beneficial not only to the trainees and instructors, but also, to the host institution and the industry actors. This finding is in concurrence with Arfo's 2015 study, which revealed that the industry-institution partnerships are critical in facilitating the development and provision of TVET programmes that would be responsive to the needs of the labour market.

The findings further implied that partnership between the VETCs and industry could provide avenues for blending theory and practice given that the student trainees would

have an opportunity to apply knowledge in real work situation thereby closing the gap between the VETC learning and the actual practice. In addition, the industrial attachment could also provide opportunities for trainees and instructors to establish interpersonal relationship with industry practitioners. These findings are in agreement with Dondofema, Mwenje and Musemwa (2020), who asserted that industrial attachment remarkably exposes students to the work environment creating opportunities to market themselves and link with potential employers.

On the other hand, results in Table 4.28 also showed that 93.5% of the instructors confirmed that VETCs had qualified instructors for most of courses/trades offered. The findings revealed that the county government have made remarkable efforts to employ adequate instructors for majority of the VETCs. However, the instructors need to acquire requisite pedagogical skills and attitude to assist them in effective implementation, monitoring and evaluation the VET curriculum. Similarly, the Kisii County Integrated Development Strategic Plan (2023) focusses on enhancing the human capital for VETVs through recruitment and capacity building for effective implementation of the VET Competency-based curriculum. These findings were in agreement with the study by Udu, Umar and Idris (2013) which revealed that effective implementation TVET curriculum to achieve planned objectives or derived outcome depends on the quality of the teacher's ability to effectively manipulate, operate, and use resources and facilities to help learners learn the contents of the curriculum.

The results in Table 4.28 further confirmed that 53.1% of the instructors indicated that VETCs do not have adequate teaching and learning facilities for all the course/trade offered. This finding implied that VETCs could not be having the needed and necessary instructional resources to ensure effective implementation of the competency based VET curriculum. Consequently, quality of training to enhance skills, competencies and

attitudes necessary to produce skilled artisans and crafts persons. Therefore, this situation could call for the county government to intensify resource mobilization and expand the revenue base. Therefore, there could be need for the government to Lobby for increased funding from the national government as well as establish networks for material and financial assistance from development partners. This strategic intervention could make it possible for the VETCs to have the capacity to procure sufficient teaching learning resource needed to adequately execute their mandate. As a result, the VET recipients would acquire requisite employable and entrepreneurial skills.

the study sought the views from instructors on steps that they consider important in enhancing the trainees' participation in industrial attachment. The obtained information was analysed and the results are presented in Table 4.29.

Table 4.29: Instructors' Strategies for Effective Trainees' Participation in Industrial Attachment

Instructors' Strategies	Frequency	Valid Percent
Industrial attachment should be at least 3 months and compulsory	8	19.0
Industrial attachment should be assessed	7	16.7
Provide incentive packages	7	16.7
Partner with industries to absorb them	3	7.1
Recommendations to institutions	3	7.1
Exchange of new ideas and skills	3	7.1
Good practical performance	3	7.1
Follow ups by institution	2	4.8
Trainees to be insured on the policy of personal accidents	2	4.8
Before exams the trainee should complete attachment	1	2.4
Assessment during attachment	1	2.4
Registration of final examination for those who have done attachment	1	2.4
There should be compulsory attachment	1	2.4
Total	**42**	**100.0**

The results from table 4.29 showed that 19% of the instructors were in agreement that industrial attachment should be at least take a duration of three (3) months as well as be made compulsory trainees. These findings implied that that internship was not being given the attention it deserved. Hence, making it mandatory with specified duration could be an appropriate strategy aimed at exposing the trainees to work environment, acquire knowledge, skills, competencies, attitudes and values that are not taught at the VETCs. Additionally, the industrial attachment period could provide them opportunities to access tools, equipment, materials and facilities that are normally unavailable training centres.

Results presented in Table 4.29 showed that 16.7% of the instructors revealed that industrial attachment should be assessed. The findings underscore the importance of assessing the progress and outcomes of the attachment process. Similarly, it implied that the trainees could more likely to take the industrial attachment more seriously given that he or she will be assessed. In addition, the instructors and host organizations would be able to evaluate the extent to which the trainees have been able to apply the learned knowledge and skills, examine the values and attitudes developed, and the work-related experiences gained.

Results presented in Table 4.29 also showed that 16.7% of the instructors revealed that providing incentive packages is important to enhance Industrial attachment. The findings implied that all the key players involved in industrial attachment need to be motivated. It means that the students need to be paid some allowance while on industrial attachment. Similarly, the personnel that supervise the student trainees on industrial attachment need to be motivated through paying them some allowance or be given incentives that will encourage them to be committed in executing their mandate. The

findings further implied that the host organization can be motivated through involving them in the curriculum review process and examination of VET trainees. These findings are in agreement with Dondofema, Mwenje and Musemwa (2020), who revealed that in Zimbabwe students studying in polytechnics are paid an allowance when they are on industrial attachment.

The study sought to establish instructors' view on their advice towards strengthening industrial attachment in order to improve the quality of graduate from TVET. The obtained data was tabulated as depicted i

n Table 4.30.

Table 4.30: Instructors' Strategies for Strengthening Internship/Industrial Attachment

Instructor' Strategies	Frequency	Valid Percent
VET institutions to partner with different industries	12	33.3
All trainees to attend industrial institutions which have modern facilities	10	27.8
Incentive packages	4	11.1
Avail tools and equipment	3	8.3
Allocate more time	3	8.3
Discipline	2	5.6
Supervising trainees	1	2.8
Companies to better industrial policies	1	2.8
Total	**36**	**100.0**

Data in Table 4.30 showed that 33.3% of the instructors revealed that it was important for VETCs to partner with different industries with an aim of getting adequate opportunities for industrial attachment and collaboration. In addition, 27.8% of the instructors confirmed that trainees could greatly benefit through accessing and using

relevant and modern facilities during the internship period. Similarly, 11.1% of the instructors were in agreement that incentive packages are important during internship/attachment partnership. This finding implied that the involved industry players need to ensure availability of necessary tools and equipment as well as allocate more time for trainees during industrial attachment.

The study tested the Null Hypothesis (**H_0**) that stated, *"There exists no relationship between Industrial-Institution Partnerships and Efficiency in Skills Development".* To achieve this, the study conducted Spearman's Correlation Test between the two variables and the results are illustrated in Table 4.31

Table 4.31: Industrial-Institution Partnerships and Efficiency in Skills Development

Spearman's rho		**Industrial-institution partnership**	**Efficiency in skills development**
Industry-institution partnership	Correlation Coefficient	1.000	.303
	Sig. (2-tailed)	.	.019**
	N	177	177
Efficiency in skills development	Correlation Coefficient	.303	1.000
	Sig. (2-tailed)	.019**	.
	N	**177**	**177**

****. Correlation is significant at 0.05 level (2-tailed).**

Results in Table 4.31 showed that there exists a weak positive correlation between Industrial-Institution Partnerships and Efficiency in Skills Development (Spearman's rho=.303, N=177, P Value=.019). This implied that the relationship between the two variables is statistically significant (P<.05).

Further results in Table 4.31 implied that the two variables correlate in the same direction, as the Industrial-Institution Partnerships increases also the Efficiency in Skills Development increases in public VETCs in Kisii County. Further, the inferential

statistics obtained from trainees are supported by the descriptive statistics by instructors on industrial-institution partnership in Public VET institutions in Kisii County.

4.8: Effectiveness in Financing and Efficiency in Skills Development

The fourth objective of this study was to: evaluate how effectiveness in financing VET institutions affects efficiency in skills development at vocational training centres. The study sought to establish the respondents' understanding of the relationship between effectiveness in financing of VET and efficiency in skills development.

Similarly, the study sought responses from the respondents to show the influence of different streams of funding affected the availability, adequacy and appropriateness of the physical facilities, tools and equipment, workshops, laboratories, libraries, and human resources at vocational education and training centres. In addition, the study sought to determine the extent to which financial management processes and practices affected optimal operations, participation rates and quality of training at VETCs.

In this regard, the study sought to establish some of the problems faced by the trainees in financing their education and training in the public TVET. Therefore, the trainees were asked to indicate the problems that were encountered the financing TVET. The trainees' responses obtained was tabulated and findings are depicted in Table 4.32

Table 4. 192: Trainees' responses on problems encountered in financing TVET

Problems Encountered	Frequency	Valid Percent
Household financial problem	114	75.0
Lack of physical and training facilities due to financial challenges	20	13.2
lack of time	2	1.3
Sponsorship withdrawal	4	2.6
Purchasing tools and equipment which are expensive	3	2.0
Poor management	4	2.6
Delays in disbursement of bursaries	5	3.3
Total	**152**	**100.0**

The results in Table 4.32 showed that 75% of trainees experienced financial difficulties in meeting the cost of the training. These findings revealed that majority of the trainees were from low-income households. Consequently, the low enrolment rates in majority of the vocational training centres could be attributed to inability of the households to meet the direct and indirect costs of the training. This finding is in agreement with the *2015/2016 Kenya Integrated Household Budget Survey* (KIHBS) report, which revealed that the poverty index for Kisii county stood at 44.5% compared to the national figure of 32%.

Similarly, the results in table 4.32 showed that 13.2% of the trainees revealed that the training institutions did not have adequate physical and training facilities. The findings further implied that the county government did not allocate adequate financial support to assist the VETCs to have the capacity to put up sufficient physical and training facilities. This finding is in agreement with Arfo's study in Nigeria in 2015, which

revealed VET institutions did not have financial capacity to procure adequate facilities as well as repair worn out tools and equipment.

The study sought to establish from the principals the main sources of funding of the VETCs. The attained principals' information was analysed and results are presented in Figure 4.3

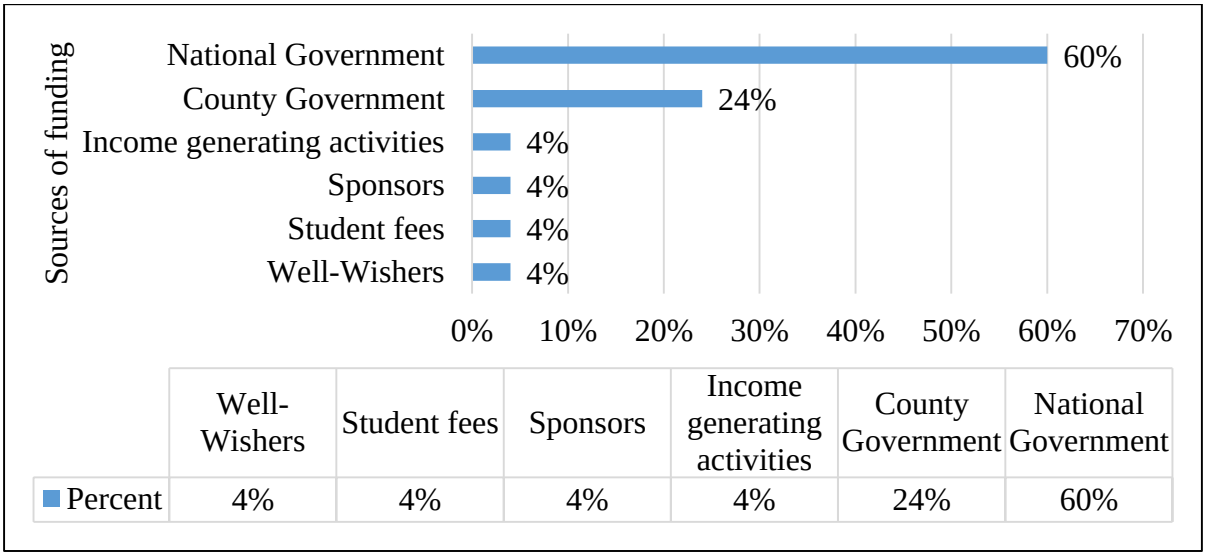


Figure 4.2: Principals' Response on Sources of Funding for VETCs

The results in Figure 4.3 showed that 60% of the principals confirmed that the national government through the conditional grant was the major financier of VET. The government's commitment could be attributed to the fact that education is considered to be a fundamental human right which is enshrined in the Constitution of Kenya 2010. Additionally, the Government considers investment in TVET as a top priority due to its association to economic growth, employment and reduction of poverty. Similarly, education is an indispensable vital process that has as the potentialities to shape the destiny of a country as informed by the *EFA Goals, SDG-4, UNESCO framework on quality education and training, AU Vision 2063* and *Kenya Vision 2030, sessional paper No. 1 of 2005 on Education, Training and Research and Sessional Paper No. 1 of 2019 on quality of education and training*

In addition, the Kenya National Bureau of Statistics (2013) report indicated that the skills base of a country is an important factor in marching job seekers and employment opportunities. The report further noted that unequal opportunities in access to education have long-term consequences that include intergenerational persistence of poverty. The findings precisely supported the notion that TVET continue to be gain recognition and attention by the nation government because of its role in stimulating sustainable development.

The results in figure 3 showed that 24% of the principals were in agreement that the county government was another source of funding VETCs. Therefore, this finding confirmed that county government heavily depended on national government funding to support the VETCs. Further, analysis of relevant financial documents confirmed that the conditional grant was the main source of income for the VETCs, yet, VET is a devolved function in accordance to the fourth schedule of the 2010 Constitutions of Kenya 2010.

Additionally, the documents revealed that the objective of the national government was to provide opportunities for the youths and other vulnerable groups to access quality skills training in line Sessional Paper No. 1 of 2019, on *Reforming Education and Training for sustainable development in Kenya* and SDGs. In this regard, VET is envisaged to equip trainees with competitive employable technical and vocational skills aimed at making them self-reliance and relevant to the job markets. Consequently, the documents that were analysed during the study indicated that each eligible trainee received Ksh. 15,000/= of the conditional grant once every year effective from the Financial Year (FY) 2019/2020. These funds are anticipated to meet both the capital and recurrent expenditures each trainee enrolled in a public.

As a result, the findings demonstrated that the county government's major challenge in funding VETCs was overreliance on the exchequer. Therefore, there is need for the county government to diversify sources of income with an aim of expanding the revenue base for VETCs. This intervention calls for extensive lobbying and networking for technical, material and financial assistance from the private sector, development partners and non-governmental organizations to supplement government funding. This approach could assist VETCs to increase access opportunities and improve quality. As a result, strategic investment in supporting skills development would assist to address poverty and unemployment as well as spur economic growth in the country, and in the county in particular. The KNBS report (2013) confirmed that education and training provides individuals with the capacity to obtain higher income, increased standard of living, and opens more opportunities to access decent as well as better paying jobs.

The study sought to establish from the trainees the sources of financing their VETCs education. The trainees' responses are presented in Table 4.33.

Table 4. 203 Trainees' Responses on Sources of Financing VETCs

Sources of Financing	**Responses**	
	N	**Percent**
My parents/guardians pay my fees	100	34.4%
I receive the constituency bursary	64	22.0%
From National Government conditional grant	88	30.2%
My sponsor pays for me	14	4.8%
From well-wishers	25	8.6%
Valid N	**177**	**100.0%**

The results in Table 4.33 revealed that 34.4% of the students indicated that their parents or guardians met the direct cost of their education and training. The findings implied that households played an important role in improving enrolment and retention rates in most of the VETCs. The results also revealed that 30.2% of the respondents confirmed

that the national government was the main financier of their education and training. These finding was in concurrence with the responses from interviewee one who confirmed that:

> *The National government continue to fund the VET through the conditional grants by parliament. The primary objective of the Conditional Grant for the Vocational Training sector is to provide an incentive to County Governments towards the rehabilitation of VETCs across the country. The incentive is meant to increase the enrolment and retention rates of trainees in VETCs by giving a capitation of KES. 15000 per trainee per year.*

This finding affirmed the commitment of the national government in supporting the counties to intensify and expand opportunities at VETCs.

On the other hand, the documents analysed further revealed that the national government had strict eligibility criteria for determining the trainees who were to benefit from this conditional grant. The criteria specified that:

i. Such a trainee is enrolled in a programme leading to a qualification organized by the Kenya National Qualification Authority (KNQA);
ii. The trainee is a registered full time or part time student in a public VTC which has fulfilled eligibility criteria given in iii below.
iii. Programmes taking less than one year, the capitation will be paid once per qualification/certificate per year.
iv. The capitation per student shall be paid once in a calendar year for a programme that takes more than one year.

Nevertheless, the finding implied that the eligibility criteria for the subsidized fees

demonstrated the national government's efforts to promote access and quality training at VETCs across the counties. This intervention could be attributed to the fact that the overall objective to assist VETCs in order to promote access, quality, relevance and equity in skills acquisition to the youths. The grants have been used in the county as incentives to attract and retain trainees in VTCs as they undergo quality skills training.

The study established that the conditional grant he grant was utilized against the vote head listed in table 4.34.

Table 4.214: Vote Head for Conditional Grants

	ITEMS	AMOUNT(KES)
a)	*Repairs, maintenance, and improvement of tool and equipment*	*3,300/=*
b)	*Text books, Exercise books and Stationery*	*2,000/=*
c)	*Tools, Equipment and Instructional /Assessment materials*	*6,000/=*
d)	*Electricity, water and Bank charges-utilities*	*1,200/=*
e)	*Skills Competition and Exhibitions*	*950/=*
f)	*Co-curricular activities*	*1,000/=*
g)	*Local Travel and transport*	*500/=*
	TOTAL	***15,000/=***

***Trainee Receive Ksh. 15,000/=**

Data in Table 4.34, the financial records were obtained from the accounts department at the county. The Conditional Grant for FY 2019/2020 revealed that the funds allocated and disbursed to the VETCs was based on the verified eligible trainee enrolment data per VECT. The enrolment data is submitted during the month of October of every year. The enrolment is further subjected to verification by the directorate of VETC based on data collected during routine Monitoring and Evaluation (M&E) exercises. The implication of the formulae used to compute the allocations was dependent on the

enrolment of trainees in each of the VETCs. The implication of this finding was that VETCs that had intensified efforts in attracting more trainees to enrol were the major beneficiaries. As a result, some of the VETCs with low enrolments received minimal allocations.

The document analysis further revealed that the first disbursement of the Subsidized Vocational Training Support Grant for the year 2017/2018 was KES 29m. in addition, the disbursement of the Subsidized Vocational Training Support Grant for the year 2018/2019 was KES 52,917,950. This grant was allocated and distributed to the VETCs that met the requirements for the disbursement. The grant was disbursed to eligible VETCs based on the verified trainee enrolment data per VETC. It was established that the conditional grants had greatly assisted the VETCs to meet some of the recurrent and capital expenditures such as repairs and maintenance of physical facilities (e.g., classrooms, workshops and toilets) and improvement of tools and equipment. Similarly, the grant had been used to meet some of the operational expenditures like purchase of instructional materials, tools and equipment, electricity bill, skills competition and travel and transport expenses.

However, the documents analysed on access, revealed that the conditional grants were not adequate to enable the VETCs to repair or rehabilitate most of the workshops, classrooms and toilets. In addition, the grants disbursed to the individual VTCs were insufficient to increase tools and equipment.

On the other hand, the document analysed revealed that, despite financial support from the national government, VETCs in the county continued to face insurmountable financing challenges. This situation was attributed to the fact that the institutions

received inadequate financial assistance more particularly from the country government than their projected recurrent and development expenditure. The findings implied that if the trend of underfunding VETCs continue to persist, these institutions would not have adequate funds the required to procure the necessary physical infrastructural facilities, teaching-learning resources, and qualified human resources. In this regard, the county government and VETCs may need to creatively explore other innovative mechanisms for revenue diversification. The extra revenue raised could be used to bridge the existing financial gaps being experienced by the institutions.

The study sought the principals' response on the financing-related problems VETCs in achieving their quality objectives. The obtained information was computed and results are depicted in Figure 4.4

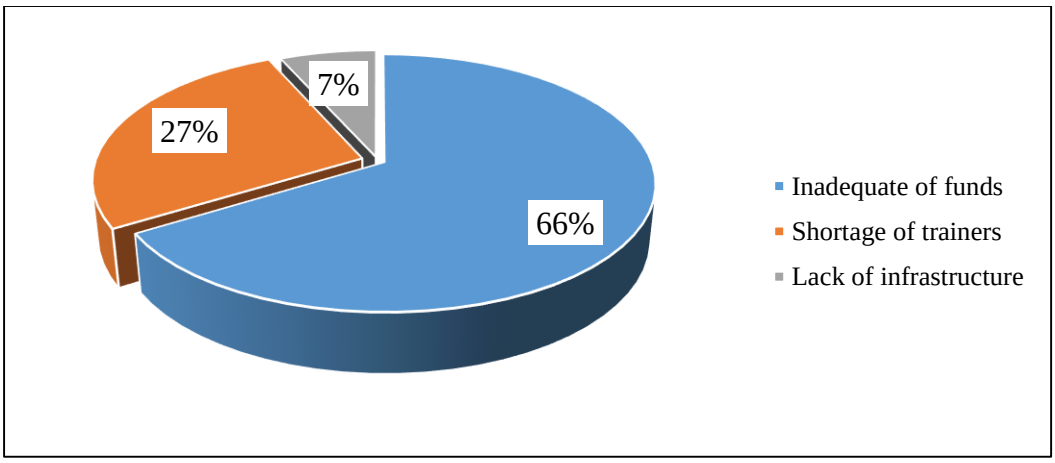


Figure 4. 3 Principals' Response on Financial Constraints Facing VTC in meeting its Quality Services

The results from Figure 4.4 showed that 66% of the principals revealed that majority of the VETCs had inadequate funds to assist in enhancing the quality and relevance of the skills development process. This finding demonstrated that the VETCs did not have the financial capacity and muscle to either construct enough physical facilities or equip them with modern tools, equipment and other relevant instructional resources. Consequently, poor image and negative perceptions toward TVET by stakeholders

could be attributed to the financial inability of the training institutions have adequate, appropriate and modern infrastructural facilities and training resources. As a result, majority of the primary and secondary school graduates have not been attracted to enrol at VETCs.

The study demonstrated that well equipped workshops are critical in not only attracting potential trainees, but could also instrumental in improving the implementation of the practical components of the TVET curriculum. Therefore, the study noted that the provision and effective installation of equipment in workshops in VETCs was dependent on availability of sufficient financial resources. As a result, VETCs that did not have sufficient funds lacked the capacity to purchase adequate tools and equipment needed for practical training of trainees in skills acquisitions and advancement.

Figure 4.4 further revealed that 27% of the principals confirmed that the VETCs faced shortage of well trained and qualified trainers This finding implied the institutions did not have adequate human capital to facilitate effective teaching and learning process in to enable the trainees acquire the requisite practical skills. As a result, the institutions did not have sufficient human resource capacity to provide training quality of service. Consequently, shortage of qualified trainers negatively influenced the quality of pedagogical and instructional processes. In addition, the results in figure 4.4 further pointed out that 7% of the principals confirmed that some of VETCs lacked infrastructural facilities. This implied that training tools, equipment and facilities in most of the VETCs. As a result, the trainees may not acquire the entrepreneurial skills and competences needed by labour market.

The study therefore sought to establish the interventions that could be instituted to improve of financial resources to attain institutional quality policy objectives in each of the VETC. The principals' views on interventions were analysed and findings are presented in Figure 4.5.

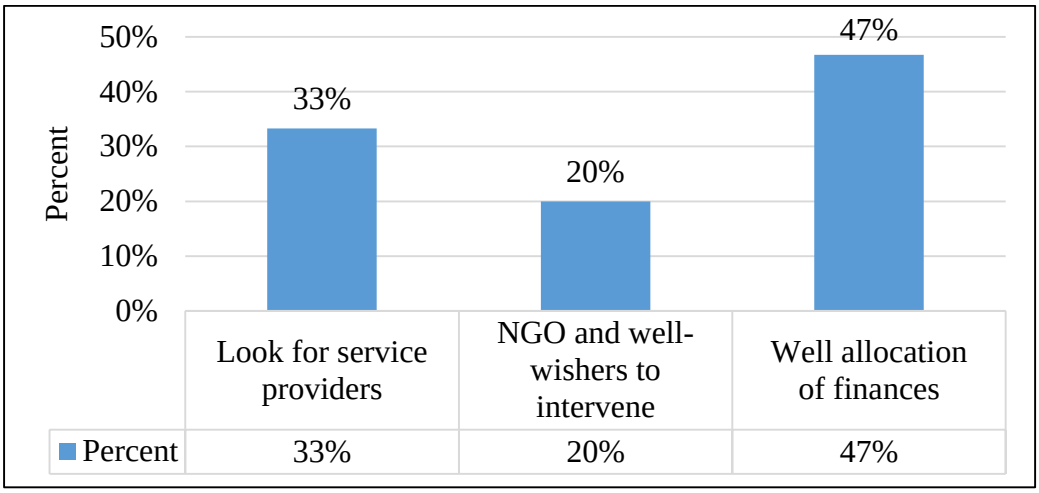


Figure 4.4: Principals' Views on financial Interventions for Institutional Policy Objectives

Results in Figure 4.5 showed that 47% of the principals were in agreement that well allocation of financial support to VETCs was important in providing appropriate delivery environment to enhance access and provision of quality and relevant training. This finding implied that sound criterial should be employed in the allocation of financial resources in order to promote equity, internal efficiency and effectiveness in the training institutions.

The results in figure 4.5 further showed that 33% of the principals confirmed that it was important VETCs to reach out to Non-Governmental Organizations and well-wishers to supplement the allocations from the county and national governments. This funds diversification strategy was considered to be instrumental in enhancing the institutions

to meet the recurrent and capital expenditures. As a result, the training institutions would have the financial capacity to provide physical facilities, human, material and instructional resources to be in position of enhancing access, quality and relevance.

On the other hand, the study sought to establish from the principals the strategies that could be initiated to strengthen co-ordination among various funding agencies for vocational training institutions. The results were tabulated in Figure 4.6.

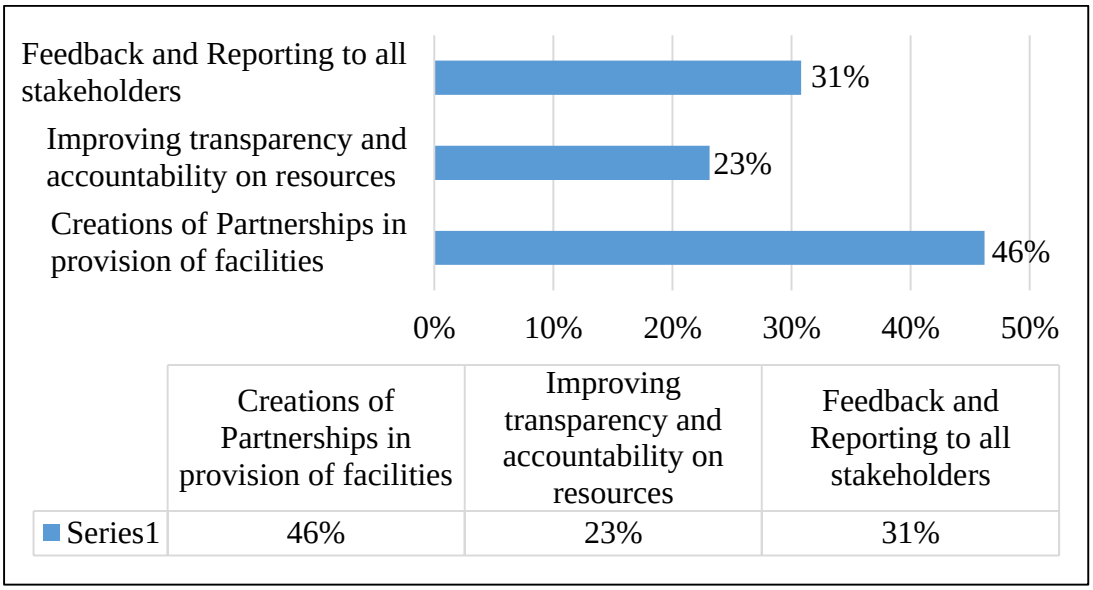


Figure 4.5: Principals' responses on strategies to strengthen co-ordination among various funding agencies.

From Figure 4.6, the results showed that 46% of the principal indicate that creation of strong partnerships in financing the provision of training facilities and resources for VETCs was found to be important. This implied that the existing financial co-ordination approach has not adequately assisted in mitigating existing mobilization, allocation, disbursement and implementation challenges. The results implied that it was prudent to establish and operationalize technical financing coordination committees at the national, county, constituency and ward level. These technical committees will be mandated to make decisions on coordination, planning and implementation of all financial resources from different stakeholders.

Firstly, the national technical committee will be in-charge of overall management of financial and material resources from the national government regional and global sources. In addition, this technical committee will plan for allocation and disbursement of the funds to the county governments for implementation. Consequently, the committee's secretariat would also from time to time provide policy guidelines and frequently monitor the disbursement and equitable sharing of the funds. Similarly, the accounting, oversight and feedback functions will be executed by this national technical committee.

Secondly, the technical committee at the county level would work closely the various technical committees at the constituency, ward and institutional level. Therefore, the county technical committee would play key roles in coordination of the various sources of funds, their allocation, disbursement and monitoring to minimize cases of double or multiple allocations to individual trainees as well as VETCs. As a result, it could be possible to promote accountability and effectiveness in the entire process of financing and provision of training facilities as per the laid down guidelines and regulations.

Further, the study sought to establish from the principals' strategies that can initiated to strengthen and co-ordination of Audit process in order to enhance efficiency in skills in financial management. The principals' responses were presented in Table 4.35

Table 4.225: Principals' Responses on Financial Management

Statement	Mean	Standard Deviation
	4.3846	.65044
Auditors have been playing an important role in improving financial management in this VTC		
Audit manuals and audit procedure documents are available to assist in the improvement of financial management in this VTC	3.5385	1.26592
Auditors frequently visit the VTC to assess compliance and adherence to financial management protocols and procedures	4.1538	.89872
It does not take time to get an audited institution's report	2.7692	1.16575
The audit office organizers seminars/workshops to enhance the capacity of VTC managers in financial management and accountability	3.0000	1.34840
Principals require frequent training on how to improve purchase and stores system	4.3846	.50637
Performance appraisals, supply of audit manuals and protocols are frequently made available	3.4615	.96742
There are no challenges facing the VTC in internal financial control procedures	2.5385	.96742
Principals require frequent training on how to improve revenue control system	4.3846	.50637

Valid N=14

Scale Mean	Description
1.00 to 1.79	Strongly Disagree
1.80 to 2.59	Disagree
2.60 to 3.39	Moderate
3.40 to 4.19	Agree
4.20 to 5.00	Strongly Agree

The results in Table 4.35 demonstrated that majority of the principals were strongly in agreement that auditors have been playing an important role in improving financial management in these VETCs as shown by the mean of 4.3846 which was supported

by the SD of 0.65044. The results further revealed that majority of the principals were in agreement that audit manuals and audit procedure documents were available to assist in the improvement of financial management in this VETC as shown by the mean of 3.5385 which was supported by the SD of 1.26592. These findings revealed that the school auditors made available the audit plans, audit manuals, audit procedure documents and audit reports to the principals to assist them in the improvement of financial management in VETCs. As a result, majority of the VETCs had clean audit reports which implied s that they had adhered to the accounting standards or the generally accepted accounting principles.

Therefore, the study revealed that the auditor reports for each specific VETC provided a clear and explicit financial opinion that demonstrated the true and fair position of assets and liabilities of the training institution. In addition, the audit reports gave the perspective on major and even minor aspects which needed immediate attention by the management of the institution. Therefore, a good auditor provided explicit remarks on whether the training institutions were conducting their affairs in full compliance or the severe flaws exist in the institutions. Generally, the study findings seemed to confirm that majority of VETCs in the Kisii County adhere to the accounting standards and principles. Consequently, the auditor reports seemed to have been helpful to the principals and Board of managements in maintaining internal controls. As a result, it was possible that majority of the vocational training centres demonstrated effective financial management and accountability.

The results in Table 4.35 further showed that a large number of principals were in concurrence that auditors frequently visited the VETCs to assess compliance and

adherence to financial management protocols and procedures as shown by mean of 2.5385 which was supported by SD of 0.89872. This finding revealed that the county had adequate auditing personnel which was quite effective in providing regular auditing services to VETCs. This finding revealed it was important for the auditors to make their reports available to the principals in time to assist them to maintain and sustain internal controls. Therefore, the auditor's frequent visits to the VETC was critical in assisting the principal and Board of Management to spot efficiencies as well as to assist in designing action plans aimed at mitigating any form of inefficiency in financial management and accountability.

The results in Table 4.35 further showed that majority of the principals were in agreement about the need for frequent training procurement processes and store systems as was shown by 4.3846 which was supported by SD of 0.50637. The finding revealed that majority of the principals did not have requisite knowledge and skills in executing their mandate of procuring the necessary training inputs such as instructional resources, tools and equipment. This finding demonstrated that that the principals have knowledge and skills gaps in procurement of goods and services required in VETCs.

Therefore, this finding in table 4.35 implied that the principals needed to possess thorough knowledge and skills in procurement processes and procedures in order to enhance their effectiveness in executing their mandate. This finding further implied that the principals required to acquire requisite knowledge and skills in procurement processes and procedures in order to enhance their effectiveness in executing their mandate. The finding seemed to suggest that capacity building could assist the

principals to acquire and advance new skills in order to enhance their capacity to execute their mandate efficiently.

Further, the results in Table 4.35 also showed that that majority of the principals required frequent training on how to improve revenue control system as indicated by a mean of 4.3846 which was supported by SD of 0.50637. The findings revealed that majority of the principals do not possess sufficient knowledge and skills on revenue control systems such as strategic revenue planning, budgeting, accounting and auditing processes. The findings seemed to suggest that on-job-training initiatives can not only enable principals to strengthen their skills, but can also, assist them acquire new skills with an aim of responding more effectively towards improving revenue control systems.

The results in table 4.35 further indicated that majority of the principals were not in concurrence with the view that here were no challenges facing the VETCs in internal financial control procedures as indicated by a mean of 4.3846 which is supported by SD of 0.96742. These finding implied that most of the principals in various VETCs lack prerequisite knowledge and skills on appropriate internal financial control mechanisms. Consequently, the principals were found to be in need of more knowledge on book keeping; procurement rules and regulations; requirements for national and county funding.

As a result, the study sought get the opinions of the principals about the possible strategies which could be employed to strengthen budget and procurement in training institutions. The principals' responses were presented in table 4.36.

Table 4.36: Principals' Response on Strategies to Strengthen Budget and Procurement

Strategies for budget and procurement	N Valid	Mean	Std. Deviation
Principals require frequent training on how to improve budgeting system	13	4.3846	.50637
Principals require frequent training on how to improve revenue control system	13	4.3846	.50637
Principals require frequent training on how to improve procurement system	13	4.1538	.68874
Principals require frequent training on how to improve payment system	13	4.1538	.98710
Principals require frequent training on how to improve finance budgeting system and book keeping function	13	4.1538	.89872
Principals require frequent training on how to improve financial reporting system	13	3.9231	.64051
The County Government need to improve funding to VTC	13	4.4615	.66023
The instructors in-service pedagogical training to improve their teaching-learning effectiveness	13	4.6154	.65044

Valid N=14

Scale Mean	Description
1.00 to 1.79	Strongly Disagree
1.80 to 2.59	Disagree
2.60 to 3.39	Moderate
3.40 to 4.19	Agree
4.20 to 5.00	Strongly Agree

The results in Table 4.36 showed that majority of the principals strongly agreed that in-service pedagogical training can improve instructors' teaching-learning effectiveness as indicated by mean of 4.6154 that is supported by SD of 0.65044. These findings implied that the most of the instructors in the VETCs were not professional trained instructors. Therefore, the findings revealed that most VET instructors in the county

did not have requisite pedagogical techniques and styles necessary to enhance effective teaching and learning process. Consequently, the instructors did not have adequate professional capacity to adequately prepare graduates for the world of work.

The finding revealed that majority of the instructors were diploma graduates without a professional training in teaching. This finding implied that in as much as the instructors possessed practical knowledge, skills and competencies in their various disciplines, they lacked fundamental training in teacher education on methodology and psychology. As such, the instructors required to undergo in-service training opportunities to acquire, refresh as well as advance their knowledge and skills in order meet the teaching standards needed in rapidly changing world.

On finding of VETCs, the results in Table 4.36 further showed that majority of the principals strongly agreed that the County Government needed to improve funding to VTC as indicated by the mean of 4.4615 and supported by SD of 0.66023. The finding revealed that majority of the VTCs do not have adequate funds to meet both the recurrent and development expenditure. These findings are supported by interviewee participant number one who confirmed that VETCs depend on the conditional grant from the national government:

> "*The main sources of funding for VETCs are the National and county governments. Although the VET is a devolved function in accordance to the fourth schedule of the 2010 Constitutions of Kenya, the county government has not provided adequate funds to support VETCs. The National government continue to fund the VTC through the conditional grants. The primary objective of the Conditional Grant for the Vocational Training sector is to provide an incentive to County Governments towards the rehabilitation of VETCs across*

the country. Similarly, the incentive is meant to increase the enrolment rates and retention rates of trainees as well as promote quality training at VETCs".

These study findings implied that over dependence on the conditional grants from the national government could be detrimental to the future of VETCs should the funds be withdrawn given that vocational education and training is a devolved function. Consequently, the study finding implies that the County Government would need to find short term, medium term and long terms solutions to financial constraints facing VETC.

On the other hand, the findings implied that for effective teaching and learning to take place in TVE institutions, it was the responsibility of County Government to reach out to other key financiers such as the community, philanthropists, industry players, Non-Governmental Organizations and charitable institutions among others. Similarly, individual VETCs would also reach out to the private sector and wealthy individuals in the society seek support for the needed financial and material resources. In addition, principals and boards of VETCs could be encouraged to identify other sources such as income generation activities.

In essence, these study findings seemed to emphasize that financial support for VETCs could be instrumental in promoting quality training through the provision of infrastructural and workshop facilities such as tools, equipment and machines and other relevant training resources. As suitable training environment was viewed to be an important component in enhancing the trainee's process of acquiring relevant and adequate skills, knowledge, competencies and attitudes required in the labour market and other sector in development.

The results in Table 4.36 further showed that majority of the principals strongly agree that they required frequent training on how to improve budgeting system as indicated by the mean of 4.3846 supported by SD of 0.50637. The results demonstrated that in order to improve the budgeting systems in VETCs, the principals required to undergo frequent capacity building programmes to assist them acquire, master and advance the necessary skills and competencies.

Similarly, the finding implied that knowledge on budgeting processes could be critical in empowering the principal to ensure that all funds received by the VET are accurately recorded showing the source and the amount. In addition, the principal on behalf of the board could be able to prepare realistic and attainable budgets, to prepare and process payment vouchers and to provide supporting documents such as receipts attached for auditing and accounting purposes. Finally, it could be possible for the principal to make necessary improvements in financial reporting systems ensuring that funds are used only for the priority areas that were in the approved budget.

More importantly, the results in Table 4.36 also revealed that majority of the principals strongly agree that they required to undergo frequent training on how to improve revenue control system as indicated by the mean of 4.3846 supported by SD of 0. 50637. These findings implied the most of the principals have inadequate requisite knowledge and skill on revenue management and control systems. The capacity building programmes could be critical in enhancing the principals' awareness on compliance to specific laws, procurement, payment and disclosures in executing their mandate.

The results in Table 4.36 further revealed that majority of the principals agreed that they required frequent training on how to improve procurement system as indicated by the mean of 4.1538 supported by SD of 0. 68874. The findings revealed that most of the principals had challenges in managing the procurement processes in the VETCs. This finding demonstrated that majority of the principals lack the requisite knowledge and skills in procuring the budgeted goods and services and are not able to identify and maintain appropriate suppliers.

On the other hand, this finding implied that the principals seemed to lack inherent capacity to intelligently negotiate with suppliers on terms and conditions of goods and services that are to be procured. Majority of the principals did not have thorough understanding of the Government of Kenya's Public Procurement and Asset Disposal Act, 2015. Therefore, capacity building programmes would assist the principals to acquire develop and advance specific procurement skills and competencies in order to improve and sustain their efficiency and effectiveness in executing their duties and responsibilities. The training sessions would also sharpen their capacities to in decision making in the process of purchasing and receiving of goods and services.

4.9: Summary of the Findings and Reflections in Chapter Four

The study tested the Null Hypothesis (**H_0**) that stated, *"There exists no relationship between Financial Management and Efficiency in Skills Development".* In this regard, to test the Null Hypothesis this, the study conducted Spearman's Correlation Test between the two variables and the results were tabulated in Table 4.37

Table 4. 37 Financial Management and Efficiency in Skills Development

Spearman's rho		Financial Management	Efficiency in Skills Development
Financial Management	Correlation Coefficient	1.000	.544
	Sig. (2-tailed)	.	.004**
	N	14	14
Efficiency in Skills Development	Correlation Coefficient	.544	1.000
	Sig. (2-tailed)	.004**	.
	N	**14**	**14**

****. Correlation is significant at 0.05 level (2-tailed).**

Results in Table 4.37 showed that there existed a strong positive correlation between financial management and Efficiency in Skills Development (Spearman's rho=.544, N=14, P Value=.004). This implied that the relationship between the two variables was statistically significant (P<.05).

Further results in Table 4.37 implied that the two variables correlated in the same direction, such that, as the financial management increases also the efficiency in skills development increases at vocational education and training centres. On the other hand, the inferential statistics obtained from principals were in agreement with the descriptive statistics by instructors on impact of financial management on efficiency in skills development at VETCs in Kisii County.

In addition, the study summarized the correlations among the all the independent variables and the dependents variable.

To achieve this, the study conducted a multiple correlation test to understand the interlinkages among the study variables. The summary of independent variables was presented in Table 4.38

Table 4.238: Descriptive Statistics for Independent Variables

Types of Variables	Mean	Std. Deviation	N
Perception of TVET image	4.0950	.86004	177
Delivery environment	4.1731	.47367	52
Industry-institution partnership	4.3035	.83812	177
Financial management	4.3571	.49725	14
Efficiency in skills development	1.6545	.47990	52

The findings in table 4.38 revealed that there existed positive relationships between all independent and dependent variables. A multiple correlations shown Table 4.39.

Table 4.39: Multiple Correlations Statistics

		Perception of TVET image	Delivery environment	Industrial-institution partnership	Financial management	Effective skills for development
Perception of TVET image	Pearson Correlation	1	.849**	.170	.244	.713**
	Sig. (2-tailed)		.000	.560	.400	.001
Delivery environment	Pearson Correlation	.849**	1	-.201	-.141	.671**
	Sig. (2-tailed)	.000		.491	.630	.003
Industrial- institution partnership	Pearson Correlation	.170	-.201	1	-.303	.303**
	Sig. (2-tailed)	.560	.491		.292	.019
Financial management	Pearson Correlation	.244	-.141	-.303	1	.544**
	Sig. (2-tailed)	.400	.630	.292		.004
Effective skills for development	Pearson Correlation	.713**	.671**	.303**	.544**	1
	Sig. (2-tailed)	.001	.003	.019	.004	

****. Correlation is significant at the 0.05 level (2-tailed).**

Multiple correlation results in table 4.39 showed that each independent variable was correlated among other independent variables and the dependent variables. The findings showed that there existed a strong positive correlation between the perception

towards TVET image and efficiency in skills development in public as denoted by (r=.713, p<.05). The delivery environment affected efficiency in skills development in public TVET by (r=.671; p<.05). The Industry- institution partnership influenced efficiency in skills development in public TVET (r=303; p<.05) and financial management affected efficiency in skills development in public TVET by (r=.544; p<.05).

The study further conducted a multiple regression analysis and the results are presented in Table 4.20.

Table 4.40: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.709[a]	.503	.283	.42119

a. Predictors: (Constant), Financial Management, Delivery Environment, Industry-teaching institution, Perception towards TVET Image
b. Dependent Variable: Efficiency in skills development

Results in Table 4.40 showed that a model summary explained the independent variables (Financial Management, Delivery Environment, Industrial-institution partnership, perception towards TVET Image) on the dependent variable (Efficiency in skills development). This is evident since the model revealed there exists a positive correlation between independent variables and dependent variables as denoted by (r=.709).

Further, model findings signified that independent variables significantly explained dependent variable by R-Square as denoted by 50% in public TVET institutions in Kisii County.

The ANOVA analysis was computed and results are displayed in Table 4.41

Table 4.41: ANOVA[a] Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.618	4	.404	2.280	.008[b]
	Residual	1.597	9	.177		
	Total	3.214	13			

a. Dependent Variable: Efficiency in Skills Development
b. Predictors: (Constant), Financial Management, Delivery Environment, Industrial-institution partnership and Perception towards TVET Image

Data in Table 4.41, the ANOVA results signified that the model summary was statistically significant enough to predict the dependent variable (Efficiency in Skills Development). In this case, a significant level of 0.05 denoted that the model employed was a good fit for the study.

Further, the regression coefficients were depicted in Table 4.42

Table 4.42: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.455	3.140		2.056	.023
	Delivery environment	.247	.476	.232	1.518	.040
	Perception of TVET image	.843	.459	.843	1.837	.001
	Industrial-institution partnership	.045	.109	.105	1.908	.027
	Financial Management	.103	.261	.103	1.994	.026

a. Dependent Variable: Efficiency in Skills Development

Results in Table 4.42, Regression coefficients results showed that independent variables (Financial Management, Delivery Environment, Industrial-institution partnership, and Perception towards TVET Image) and the dependent variable (Efficiency in Skills Development) in public TVET had a significant effect as denoted

by a Constant Value=6.455, Delivery environment (X_1=.247, P Value=.040), perception towards TVET image (X_2=.843, P Value=.001), Industrial-Institution partnership(X_3=.045,P Value=.027), Financial Management (X_4=.103, P Value=.026). The correlation was significant because the p-value of 0.001 was below the significant level (0.05).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The purpose of the study was to examine determinants that influence efficiency in skills development in Technical Vocational Education and Training in Kisii County in Kenya. This chapter presents a summary of the research findings as presented, interpreted and discussed in chapter four. a summary of conclusions drawn and the recommendations for practice, policy and suggestions for future of research based upon the findings.

5.2 The Summary of the Study

The study was prompted by the fact that Technical, Vocational Education and Training (TVET) institutions in Kenya continue to face challenges of mitigating gaps in skills development process in order to respond to the changing labour market needs. In addition, there is scanty documented evidence to demonstrate the strategic policy and legal interventions that have been taken or being taken by the County government of Kisii to mitigate the problems facing vocational education and training institutions in enhancing efficiency in skills development. The study was guided by the following specific objectives:

i. To assess how the stakeholders' perceptions towards TVET affect efficiency in skills development at Vocational Education and Training Centres (VETCs);
ii. To evaluate how the enabling delivery environment affects efficiency in skills development at VETCs;
iii. To examine how industry-training institutions linkages affect efficiency in skills development at VETCs;

iv. To determine the extent to which effectiveness in financing of VET affects efficiency in skills development at VETCs.

Review of related literature is adequately captured in chapter two based on the specific objectives of the study. The human capital theory the education production function model was derived from the literature and employed to guide the research investigation. A correlational study design was employed to gather relevant qualitative and quantitative data from the principals, instructors, and trainers at the VETCs as well as the County Executive Committee Member (CECM) for education, the director and sub county directors of education and county school auditors in Kisii County.

On the other hand, Semi-structured questionnaires and semi-structured interviews were used to gather data from respondents at the VETCs and the specified education officers at the county level respectively. In addition, document analysis guide was used to collect relevant data at the institutional and county level. Both qualitative and quantitative deceptive techniques were used to analyse the data was study in terms of frequencies, percentages, means as well as standard deviations and inferential statistics. Correlational analysis and multiple regression analysis techniques were also used to show the relationship between the independent variable on each individual of the four dependent variables

summarized the research findings along the following parameters: assessment of the stakeholders' perceptions towards TVET and efficiency in skills development at VETCs; an evaluation of the enabling delivery environment and efficiency in skills development at VETCs; an assessment of the industry-training institutions linkage and

efficiency in skills development at VETCs; and, effectiveness in financing of TVET and efficiency in skills development VETCs.

5.2.1 An Assessment of the Stakeholders' Perceptions towards TVET and Efficiency in Skills Development at VETCs

The first objective of this study was to assess how the stakeholders' perceptions towards TVET affect efficiency in skills development at VETCs in Kisii County. It is important to note that the description of the stakeholders' attitude was important in comprehending the enrolment rates, dropout rates, retention rates and completion rates in various VETC in Kisii County. In this regard, the study sought to establish the principals' understanding of the stakeholders' perceptions towards Vocational Education and Training. Results in table 4.6 revealed that 42.9% of the principals confirmed that majority of people have negative attitude towards vocational training. The results further revealed that 42.9% of these principals were in agreement that the negative perception could be associated to inadequate employment opportunities for trainees upon completing the VET trades and courses. In addition, inadequate infrastructural facilities, equipment and tools. Consequently, these findings demonstrated that the low enrolment, retention and completion rates could be attributed to the existing negative attitude by the public towards TVET.

This finding was in agreement with one of the key interviewee who revealed that:

> *"The parents generally view TVET as an option of last resort. They prefer general education to TVET. This negative perception has adversely affected attraction of potential trainees and therefore negatively affected enrolment and participation rates at most of the VTCs in Kisii County".*

These results demonstrated that majority of the key stakeholders did not recognize and appreciate the courses and trades offered at VETCs given that they consider the training to be a preserve for individuals with low academic attainments. Similarly, they are old

fashioned and outdated. This negative perception has adversely affected enrolment, retention and completion rates at VETCs in Kisii County.

5.2.2: An Evaluation of Enabling Delivery Environment and Efficiency in Skills Development

The results in Table 4.10 shows that 83.3% of the principals revealed that condition of workshop tools are inadequate, old fashioned, and inappropriate. The results have demonstrated that the physical facilities are outdated, and unsuitable to enhance quality of the training at most of the VETCs. In addition, the results in Table 4.11 showed that 92.3%, 70% and 69.2% of the principals revealed that most VETCs do not have adequate workshop tools, equipment and machinery respectively. As a result, the acquisition of practical skills and competencies by trainees has be greatly hampered due to insufficiency of the important training facilities. More importantly, these inadequate facilities were attributed to limited funding from the county government as well as overreliance on the exchequer for funding.

On the other hand, the results in table 4.12 demonstrated that 92.3% of the principals revealed that majority of the VETCs do not have functional and established laboratories. This finding implies that science and technology related courses are theoretically taught. The results further showed that 84.6% of the principals revealed that majority of the VTCs do not have physical internet serving rooms. This finding implies that majority of trainees in these VTCs are not able to access a wealth of digital information, knowledge and other useful education resource materials.

In addition, the results in Table 4.12 showed that 84.6% of the principals confirmed that most of the VETCs do not have preparation rooms for practical lessons. This kind

of environment cannot be considered to be conducive for thorough preparation by the instructors before engaging trainees in practical work. Similarly, the findings show that 84.6% of the principals revealed that majority of the VETCs do not have libraries. This implies that these VETCs do not have space for storing the procured teaching-learning material resources.

The findings also revealed that most TVET instructors in the county do not have requisite pedagogical methods and styles of teaching necessary to adequately prepare graduates for the labour market. Majority of the instructors are diploma graduates without a professional training in teaching. Some of the instructors graduated in their respective courses of study more than 10 years in the past. In as much as the instructors may have practical knowledge in their various disciplines, they lack training in methodology and psychology. They require in-service training opportunities to refresh their old-fashioned knowledge and skills in order meet the teaching standards needed in rapidly changing world.

As matter of fact, skills acquisition can be effective and efficient when VETCs are adequately funded to ensure procurement of necessary physical facilities, human resources, tools and equipment. Umar & Ma'aji (2010) confirmed that institutions that have insufficient infrastructural workshop tools and equipment cannot have the capacity that can enable the recipients of VET to acquire necessary skills and competencies. Hence, such institutions are bound to produce highly unskilled graduates who are unemployable and unproductive.

5.2.3 An Assessment of the Industry-Training Institutions Linkages and Efficiency in Skills Development

The third objective of this study was to determine the effect of the industry-training linkages on efficiency in skills development. The study findings established that industrial attachment making it a mandatory requirement could be appropriate to expose the trainees to work environment, acquire practical knowledge, skills, competencies, attitudes and values that are not taught at the vocation education training centres. It is important to note that SDG 4 on Education focuses on ensuring inclusive and quality education for all and promote lifelong learning. The disclaimer is that Countries and states worldwide have to demonstrate commitment to ensure an equal access to affordable and quality TVET. This commitment is critical in ensuring substantial increase in the number of youths and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs entrepreneurship (World Development Report, 2013). This position postulates that the national and county governments have to make deliberate steps towards enhancing investments in the TVET sector for sustainable development. The industrial attachment could also provide opportunities for trainees and instructors to establish interpersonal relationship with industry practitioners.

5.2.4 Effectiveness in Financing of TVET and Efficiency in Skills Development

The fourth objective of this study was to determine the relationship between the funding of TVET and efficiency in skills development. The results of the study showed that 34.4% and 30.2% o of the respondents indicated that their parents or guardians and the national government respectively met the direct cost of their education and training. This finding demonstrates that households and the national government are the key players in financing the training in all the VTC. The results further revealed that 22%

of the respondents confirmed the National Government Constituency Fund (NG-CDF) bursary allocations were critical in enabling the trainees to pursue their education and training in various VETCs in the County. These efforts and commitment have significantly played an important role in improving enrolment, retention and completion rates in most of the VETCS. The financial resources have been used to provide teaching-learning materials, human resources, physical infrastructural facilities, tools and equipment. However, the potential capacity to attract more trainees has not been exploited given the limited funding of VETCs.

The findings further showed that the national conditional grant and the NG-CDF bursary allocations for each VETC was pegged on the number of trainees enrolled. This finding implies that VETCs with low trainee enrolments are financially disadvantaged. Such training institutions are likely to be the ones that have an acute shortage of the necessary human, physical, material, equipment and other important training resources. The findings revealed that negative attitude towards VET was attributed to inadequate educational inputs in majority of the VETCs given the limited sources of funding. Hence, institutions that adequate facilities and resources were more likely not only to attract high enrolment of trainees, but also, had the capacity to enhance participation rates and quality training.

These findings confirmed that it is important to increase the budgetary allocations to the national conditional grant and NG-CDF bursary kitties and ensuring consistency in timely disbursement of the adequate funds by the national government and the CDF management committees. This intervention will be instrumental in promoting, access, participation and quality skills development at the various vocational education and

training centres. Similarly, the County government should demonstrate serious commitment to promote the VET sub sector by allocating adequate financial allocations based on the needs analysis of all the VETCs. In addition, the county government need to intensify resource mobilization and expand the revenue base to bridge gaps in the budgetary allocation from the Government of Kenya. As a matter of fact, an increased revenue base would help to reduce the crude cohort wastage rates as well as assist to ensure that all the VETCs have adequate resources and facilities to promote quality training. Similarly, the intervention could help to ensure that more trainees from the low income households and vulnerable groups have the ability to enrol and be retained in public VETCs.

The county government may need to create and strengthen financial data bank based on the financial needs for each of the VETCs. This intervention can be actualized through conducting a needs analysis and tracer studies that will assist to design a model for conducting frequent Public Income and Expenditure Trucking System (PIETS) for the education sector. It will be critical for the county government to facilitate financing policy dialogue with key stakeholders such as MoE, donors, development partners, philanthropic individuals and organizations, NGOs and other key stakeholder in the education sector. Conduct analysis and training on cost-effectiveness models for the education sub-sectors Develop a new training offer on public finance and innovative financing models.

The results reveal that most VTCs are underfunded and therefore, have limited resource allocations to meet the current and capital expenditure, there is need for specializing in major skills based on their market niche. This strategic intervention may assist to mitigate the problem of limited resource allocations. Moreover, specialization also

facilitates effective resource channelling. It may be important for each VET centres to distinctively specialize in some skills rather than offering similar skills to one another. Therefore, all the VETCs in the county, with close stakeholder consultations, should identify and agree on their potential specific focus for skills development.

The findings implied that majority of the principals lack the requisite knowledge and skills in procuring the budgeted goods and services and are not able to identify and maintain appropriate suppliers. The institutional principals seem to lack inherent capacity to intelligently negotiate with suppliers on terms and conditions of goods and services that are to be procured. Majority of the principals may not have thorough understanding of the Government of Kenya's Public Procurement and Asset Disposal Act, 2015. The training will assist the principals to acquire develop and advance specific procurement skills and competencies in order to improve and sustain their efficiency and effectiveness in executing their duties and responsibilities. The training will also sharpen their capacities to in decision making in the process of purchasing and receiving of goods and services.

5.3 Conclusions

Based on the findings, this study concludes that:

i) The findings confirmed the stakeholders' negative perceptions towards VET has adversely affected not only the participation rates, but also, the quality of skills development in majority of the Vocational Education and Training institutions in Kisii County. There is need for the county government in partnership with other key stakeholders to upscale sensitization and advocacy campaign programmes to change the negative perception toward TVET.

ii) The findings confirmed majority of the VETCs do not have an appropriate delivery environment that can adequately promote enrolment, retention and completion rates as well as enhance quality in skills development. Therefore, the county government in partnership with other key stakeholders should pay special attention to the construction of modern workshops and rehabilitation of dilapidated ones at most VETCs. Similarly, there is urgent need to also equip these workshops with adequate tools and equipment, and to provide adequate qualified instructors to all VETCs. In this regard, it could be important to increase budgetary allocations as well as diversify sources of revenue for the VET subsector. These strategic interventions could assist the VETCs to meet their recurrent and development expenditure with an aim of improving training outputs and outcomes.

iii) The county government in partnership with development partners can plan to set up Digital Information Communication and Technology (DICT) Centres in all Vocational Training Centres as a strategic intervention to improve the image of TVET.

iv) There is need to plan for capacity building for instructors. There is strong evidence from the study suggesting that pedagogical techniques have positive correlation with training outcomes. Therefore, continuous professional development of instructors is a key prerequisite in enhancing training outputs and outcomes.

v) The institution-industry linkages and collaborations were found to be weak. The county government should benchmark with other counties to adopt best practices in initiating and strengthening the collaborations and partnership

between training institutions and various industry actors to retain and increase the efficiency in skills development at VETCs.

vi) The VET sub sector in the county is underfunded making it difficult for VETCs to execute their mandate effectively and efficiently given that the county government largely depends on funding from exchequer funding. Based on the past trends with respect to government funding levels, the county government must urgently intensify revenue mobilization and expand the revenue base to bridge budgetary allocation shortfalls from the national government.

vii) The National Government Constituency Development Fund (NG-CDF) committees should not only increase the budgetary allocations to the Vocational Education and Training sub sector, but also, ensure consistency in timely disbursement of the adequate funds to VETCs.

viii) The County government should demonstrate serious commitment to promote the VET sub sector by allocating adequate financial allocations based on the needs analysis of all the VETCs. These strategic interventions will not only help to reduce the crude cohort wastage rates, but also, assist ensure that in the VTCs have adequate training resources and facilities to promote quality training.

ix) There is need to encourage prudent financial and resource management, discipline and governance to at all VETCs to enhance provision and maintenance of training resources and facilities.

5.4 Recommendations

The purpose of the study was to examine determinants that influence efficiency in skills development at Vocational Education and Training Centres in Kisii County.

This study makes the following recommendations on the basis of the conclusions that were drawn:

5.4.1 Recommendations for Practice

On the basis of the findings of this study, the following recommendations for practice were made.

i. The administration and management of VETCs should initiate and strengthen career counselling departments through developing VET career progression guide materials for instructors and trainees. In addition, there is need for these administrators to strengthen local community relations and involvement as well as mount regular skills development competitions within and outside the county to enhance the visibility and vibrancy of VETCs. These strategic institutional interventions could assist to address the stakeholders' negative perceptions towards TVET.

ii. The administration of VETC should avail opportunities for internal development for instructors and trainees by rewarding excellence in service delivery and learning outcomes. It should also initiate and develop coaching and mentorship programmes for staff and trainees with an aim of not only enhancing the quality of teaching and learning, but also could assist to change the negative attitude towards TVET.

iii. There is need for curriculum developers from time to time frequently undertake to review and rebrand of VET courses with and aim of changing the negative perceptions towards as well as aligning them to the dynamic labour market needs.

iv. The administration and management of VETCs procure, maintain and optimally utilize the scarce physical facilities, human and instructional resources, tools and equipment with and aim of promoting, enrolment, retention and completion rates as well improving the quality of training.

v. The County government should from time to time be committed to improve the terms and conditions of service for all staff commensurate to their skills and experience as well as facilitate capacity building with the aim of retaining and attracting high quality human resource.

vi. The administrators and managers of VETC should develop and strengthen collaboration structures and networks with industry actors in order create opportunities for industrial attachment for students as well as enhance partnerships for curriculum review, material and resource support. Similarly, the VETCs should benchmark with other institutions to adopt best practices in the TVET subsector to retain and increase the efficiency of their physical material, human and financial resources.

5.4.2 Recommendations for Policy and Strategy

i. The administration and management of VETCs in consultation with the county government should prepare and implement advocacy and sensitization intervention programmes to address the stakeholders' negative perceptions towards TVET.

ii. There is need for the county government in partnership with other key stakeholders to also mitigate the negative perception by rolling out robust advertisements initiatives through local and international media platforms such as social media, radio and television stations, community-based public gatherings, and religious-based congregations.

iii. The county government in consultation and conjunction with the national government should make a commitment to design and implement sustainable legislations and policies on infrastructural development, provision of material,

teaching and learning resources, tools, equipment and other relevant training facilities in all vocational training institutions.

iv. The county government should ensure adequate recruitment and development of human resources as well as retention of qualified and competent staff for quality service delivery at VETCs. Therefore, the government should ensure to regularly undertake periodic recruitments as per the approved staff establishments for each of the VETCs. Additionally, it should facilitate and sustain continuous professional development for both academic and support staff to meet the changing needs of the TVET sector and labour market.

v. The county government need to develop and implement necessary linkage structures, guidelines and incentives between industry and training institutions in order to strengthen and sustain industrial attachment programmes, collaborative efforts in curriculum review, resource mobilization, coaching and mentorship of staff and trainees.

vi. There is urgent and consistent need to address inadequate financial resources at VETCs. Given that the county government mainly depends on national government funding for its recurrent and capital expenditure, there must be a deliberate move to intensify and diversify its sources of revenue and resources. This intervention calls for extensive lobbying and networking for grants and scholarships from the private sector, development partners and non-governmental organizations to supplement allocated to the VET subsector. In addition, the need to initiate and implement sensitization programmes on the new financing model for higher education to enable trainees from poor households and vulnerable groups access VET opportunities.

vii. The county government should be compelled to mount and support regular capacity building programmes on financial management for administrators and managers of VETCs with a view of enhancing financial effectiveness and accountability in training institutions.

5.4.3 Recommendations for Further Research

In view of the findings, this study made the following suggestions for future research.

i. This study was limited to Kisii County in Kenya. A study on the determinants of efficiency in skills development should be extended to a multiple of other vocational education centres, institutes of technology and national polytechnics drawn from different geographical and social demographics. This would assist in cross-tabulating the weight of determinants on the various demographics to establish which variable affects who and where.

ii. Examine influence of the new funding model of higher education in Kenya on internal efficiency at public technical and vocational education and training institutions: Case study of selected counties in Kenya

iii. An investigation into factors influencing students' choice to enroll at Technical, Vocational Education and Training institutions in Kenya.

iv. Issues of gender, disability and inequality at Technical, Vocational Education and Training in Technical at TVET institutions in Kenya

v. A tracer study on the influence of skills development at TVET institutions on external efficiency in the manufacturing sector of the economy.

References

Abrahart, A. (2003). Review of Technical and Vocational Education and Training in Egypt, Cairo.

Adewale, B., A., Aderonmu, P., A., Fulani, O., A., & Babalola, O., D., Awoyera, P., O. (2018). *Societal Attitude towards Vocational Education in Ogun State, Nigeria.* International Journal of Mechanical Engineering and Technology (IJMET) Volume 9, Issue 8, August.

Adekunle, O. (2019). Funding Effectiveness of TVET for Decent Employment and Inclusive Growth in Nigeria with Perspectives from China Journal of Education and Practice ISSN 222 (Paper) 1735 ISSN 2222-288X (ONLINE) VOL. 10 No. 36.2019.

AfDB. (2012). Innovative Strategies for Accelerated Human Resource Development: Maldives. Draft. November. Consultant's report. Manila (TA 6337-REG). (Also referred to as "Maldives Country Report" or "MCR".

Afeti, G. (2009). Technical and vocational education and training for industrialization. *Retrieved February 27*, 2023.

African Union. (2006). Second decade of education for Africa (2006–2015), draft plan of action. Addis Ababa: African Union. Retrieved November 4, 2013, from http://www.adeacomed.org/version2/IMG/pdf/SECOND_DECADE_OF_EDUCATION_FOR.pdf.

African Union. (2007). Strategy to revitalize technical and vocational education and training (TVET) in Africa. Meeting of the Bureau of the Conference of Ministers of Education of the African Union (COMEDAF II+). http://africayouth.org/sites/default/files/TVET%20Strategy%20Final%20-DRAFT.pdf.

Afro, E., B. (2015). A Comparative Analysis of Technical and Vocational Education and Training Policy in Selected African Countries. PhD Thesis.

Ahmad, B., Naji K., & Avi, H. (2016). *The Effectiveness of Teachers' Use of Demonstrations for Enhancing Students' Understanding of and Attitudes to Learning the Oxidation-Reduction Concept.* EURASIA Journal of Mathematics Science and Technology Education, ISSN: 1305-8223 (online) 1305-8215 (print) 2017 13(3):555- 570, DOI 10.12973/eurasia.2017.00632.

AIP. (2017). AIP Conference Proceedings 1887, 020076 (2017) https://doi.org/10.1063/1.500355_9 Published online: 29 September 2017.

Akoojee, S. (2007). Private Technical and Vocational Education and Training (TVET) & National Development: The South African Reality; A PhD thesis, Faculty of Humanities, University of the Witwatersrand, Johannesburg.

Akplu, F., H. & Amankrah Y., J. (2008). Report on Technical and Vocational Education and Training TVET Sector Mapping, for Learn Work, Dutch Schokland Programme on TVET, Accra.

Ala-Mutka, Kirsti. (2009). Learning in Online Spaces and Communities – how, what and when? Presentation at the Learn com expert workshop, 31 March 2009. [Online] Available: http://is.jrc.ec.europa.eu/pages/EAP/documents/Session4.pdf (February 11, 2010).

Altbach, P., G., Reisberg, L., & Rumbley, L., E. (2019). *Trends in Global Higher Education: Tracking an Academic Revolution*. BRILL.

Amaehule, S. & Enyakit, E., O. (2010). Re-branding vocational education skills acquisition: The Role of the Administrators. SBMT Nekele Conference Journal, 1(2), 132-137.

Anderson, M. (2017). Skilled traders Vs. college degrees- Seattle PI. *Retrieved from https://education-seattlepi.com/skilled-traders-vs-college-degree-1885-html.*

Antón, A. (2014). "The effect of payroll taxes on employment and wages under high labor informality", IZA Journal of Labor & Development, vol. 3, No. 1, December.

Anyakwo, P. (2012). Quality assurance in business education. Lead Paper Presented at the 24th Annual National Conference of ABEN Held from 16th-20th October, 2012 at the Federal Polytechnic, Nekede, Owerri Imo.

Arthur-Mensah, N., & Alagaraja, M. (2013). Exploring technical vocational education and training systems in emerging markets: A case study on Ghana. *European Journal of Training and Development, 37*(9), 835-850.

Audu, R., Aede, H., M., & Muhammad, S. (2013). Provision of Workshop Tools and Equipment: Necessity for Technical Vocational Education Graduates Skills Acquisition. 2nd International Conference on quality & affordable Education (ISQAE 2013).

Audu, R., I.Y Umar, A., M. & Idris. (2013). *IOSR Journal of Research & Method in Education (IOSR-JRME) e-ISSN: 2320–7388,p-ISSN: 2320–737X Volume 3, Issue 1 (Sep. –Oct. 2013), PP 28-32 www.iosrjournals.org.*

Ayub, H. (2017). Parental Influence and Attitude of Students towards Technical Education and Vocational Training. *International Journal of Information and Education Technology*, *7*(7), 534–538.

Azemati, H. et al. (2013), "Social impact bonds: lessons learned so far", Community Development Investment Review, No. 01.

Becker, G. (1962). "Investment in human capital: A theoretical analysis." Journal of Political Economy. 70: 9-49.

Becker, G. (1964). Human Capital. Columbia University Press. New York.

Bennell, P. (1999). *learning to change: Skills development among the economically vulnerable and socially excluded in developing countries.* Employment and Training Papers 43. Employment and Training Department, ILO: Geneva.

Bennell, P. (2007). *Promoting Livelihood Opportunities for Rural Youth,* Paper presented.

Bluman, A., G. (2009). Elementary Statistics: A step by step approach (7th edition). USA: McGraw-Hill. New York.

Blundell, R. & Monica C., D. (2009). "Alternative Approaches to Evaluation in Empirical Microeconomics." Journal of Human Resources 44 (3): 565–640.

Blundell, R. et al. (2005), "Human Capital Investment: The Returns from Education and Training to the Individual, the Firm and the Economy", Fiscal Studies, vol. 20, No. 1, February 2.

Boateng, F., B. (2010). The state of the textiles training and its impact on Recidivism in the Kumasi Central Prison.

Borkar, P. & Paturkar, A., A. (2013). Methodology of Collaboration Between Industry – University, Institutes in Light of the Protection and Utilization of Public Funded Intellectual Property Bill (October 31, 2013). Indian Streams Research Journal, Volume-3, Issue-9, Oct-2013, Available at SSRN: https://ssrn.com/abstract=3344209.

Bradburn, N., M., Sudman S, & Wansink, R. (2004). *Asking Questions: The Definitive Guide to Questionnaire Design—For Market Research, Political Polls, and Social and Health Questionnaires,* Jossey Bass, San Francisco.

Bussell, T., L. (2020). *The Relationship of Instructional Technology to Minority Student Successful Course Completion at a Regional University in the Rural Southwest* (Doctoral dissertation, Texas A&M University-Commerce).

CEDEFOP. (2014). Cedefop Annual report 2013. European Union, Luxembourg.

Chong, A. & Galdo, J. (2006). *Does the Quality of Training Programs Matter? Evidence from Bidding Processes Data IZA Discussion Paper No. 2202 July 2006*. Bonn.

Choy, S., & Haukka, S. (2009). Industrial attachments for instructors, in TVET delivery *International handbook of education for the changing world of work* (pp. 1367-1382): Springer.

Cooper, D., R. & Schindler, P., S. (2006). Business Research Methods (9th edition). USA: McGraw-Hill. New York.

COTVET. (2012). *TVET policy review draft final report*. COTVET. Accra

County Government of Kisii. (2019). *2020/2021 Kisii County Annual Development Plan County Integrated Development Plan* (CIDP 2013-2018). County Government of Kisii, Nairobi, Kenya.

County Government of Kisii (2023). *2023/2027 Kisii County Integrated Development Plan* (CIDP 2023-2027). County Government of Kisii, Nairobi, Kenya.

Crouch, C., Finegold, D., & Sako, M. (1999). *Are skills the answer?* Oxford University Press. Oxford.

Darling-Hammond, L. (2016). Research on teaching and teacher education and its influences on policy and practice. *Educational Researcher*, *45*(2), 83-91.

Dasmani, A. (2011). Challenges facing technical institute graduates in practical skills acquisition in the Upper East Region of Ghana. Asia-Pacific Journal of Cooperative Education, 12(2), 67-77.

Deebom, M., T. & Zite, B., N. (2016). The role of technical education in skill development among youth in Rivers State. Unpublished Conference Paper Presented at the 5th Annual National Conference on Education, University of Uyo, Akwa Ibom State from 25th- - 28th September, 2016; 2016.

Dondofema, J., Mwenje, J., Musemwa, L. (2020). The Industrial Attachment Programme - History, Benefits, Challenges and its Adoption in Zimbabwe: A Review. Asian Journal of Education and Training, 6(3): 412-420.

Donkor, F., Nsoh, S., & Mitchual, S. (2009). *Assessment of supervised industrial attachment of a technical and vocational teacher education program in Ghana.* Asia-Pacific Journal of Cooperative Education, 10(1), pp.1-17.

Efstratios P., Panagiotis G., & Eirini-Myrsini P. (2010). The Contribution of the-Internet into Learning, University of the Aegean, Greece. Review of European Studies journal. [Online] Available: www.ccsenet.org/res. Vol. 2, No. 1; June 2010.

European Commission. (2002). Increasing labour force participation and promoting active ageing. Commission of the European Communities. Brussels

Eyster, L. (2009). Ensuring the quality of training providers under the workforce Investment Act, U.S. department of Labour, Washington DC.

Federal Republic of Nigeria. (2004). *National Policy on Education*. Federal Government Press. Lagos.

Fisher, C. D., Schoenfeldt, L., F., & Shaw, J., B. (2003). Human resource management (5th edition). Houghton Mifflin Co. New York.

Fraenkel, J., & Wallen, N. (2003). How to design and evaluate research in education. McGraw-Hill. New York.

Government of Kenya. (2015). Support to Technical Vocational Education and Training for Relevant Skills Development-Phase II. Government printer. Nairobi, Kenya.

Government of Kenya [GoK]. (2003). *A rapid appraisal on the status of technical and vocational education and training (TVET) in Kenya*. Nairobi. Government Printer.

Government of Ghana. (2004). *Ghana Draft TVET Policy*. Ministry of Education Youth and Sports. Government printer. Accra.

Government of Ghana. (2004). *White Paper on the Report of the Education Reform Review Committee.* Ministry of Education Youth and Sports. Government printer. Accra.

Government of Pakistan. (2009). The National Skills Strategy: S*upporting Technical and Vocational Education and Training Reform,* National Vocational and Technical Education Commission. Islamabad.

Hanni, M. (2019). "Financing of education and technical and vocational education and training (TVET) in Latin America and the Caribbean". Macroeconomics of Development series, No. 200 (LC/TS.2019/29/Rev.1), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2019. www.cepal.org/en/publications.

Heckman, J., H., R., LaLonde & Smith, J. (1999). "*The Economics and Econometrics of Active Labor Programs."* In: O. Ashenfelter and D. Card, eds. Handbook of Labor Economics, Volume 3A. Amsterdam: North Holland.

Hong, M., C. and Kyu, C., E. (2012). Aid for Skills Development: South Korea Case Study; "Paper commissioned for EFA Global Monitoring Report 2012, Youth and Skills; Putting Education to Work, UNESCO. Paris.

Ilokanulo, S., N., Ilodibe, E., C., Okoye, M., C. (2021). Gender Inequality Challenge in TVET in Achieving Sustainable Development in Nigeria. American Journal of Humanities and Social Sciences Research (AJHSSR) e-ISSN :2378-703X Volume-5, Issue-9, pp-139-146 www.ajhssr.com.

Ikoya, P., O. & Onoyase, D. (2008). Universal Basic Education in Nigeria: Availability of Infrastructures for Effective Programme Implementation. Educational Studies: 34, 11-24.

ILO. (2011). A Skilled Workforce for Strong, Sustainable and Balanced Growth; A G20 Training Strategy: ILO, Geneva

IMF. (2011). "Shifting Gears: Tackling Challenges on the Road to Fiscal Adjustments, April 2011".

Jagero, N. (2014). *Input – Output Relationship and the Quality of Education in Day Secondary Schools in Kenya*; International Journal of Community and Corporative Studies Vol.1, No.2, pp.42-50, December 2014 Published by European Centre for Research Training and Development UK (w.eajournals.org)

Johanson, K., R. & Adams, V., A. (2004). Skills Development in Sub-Saharan Africa, World Bank, Washington, D.C.

Johanson, R. (2009). *A review of national training funds*. World Bank Washington, D.C.http://siteresources.worldbank.org/SOCIALPROTECTION/Resources/SP-Discussion-papers/Labor-Market-DP/0922.pdf.

Kahyarara, G., and Teal, F. (2008). "The Returns to Vocational Training and Academic Education: Evidence from Tanzania." World Development 36 (11): 2223–42. https://doi.org/10.1016/j.worlddev.2007.11.011.

Kailani, I., S., Gyallesu, A., B. & Yaro, A., M. (2017). Obstacles to practical skill development among students in Kaduna Polytechnic, Nigeria. *International Journal of Pharmaceutical Sciences and Research,* 8(3), 1381.

Kamau, S. M. (2013). *Challenges affecting technical and vocational education training in youth polytechnics in Kiambu County*. International Journal of Social Science and Entrepreneurship.

Kenya National Bureau of Statistics. (2013). Exploring Kenya's Inequality; *Polling Apart or Pooling Together?* Kenya National Bureau of Statistics. Nairobi, Kenya.

King, K. (2011). *Eight Proposals for a Strengthened Focus on Technical and Vocational Education and Training (TVET) in the Education for All (EFA) Agenda* (Background paper prepared for the Education for All Global Monitoring Report 2012), Paris, UNESCO UNESCO-UNEVOC/Ministry of Education conference, Gaborone, Botswana August 4 – 6, 2003).

Koskei, K., K. (2015). *Assessment of Stakeholders' Influence on Curriculum Development Process in Secondary Schools in Kericho County;* IOSR Journal of Humanities and Social Science (IOSR- SS) Volume 20, Issue 3, Ver. III (Mar. 2015), PP 79-87 e-ISSN: 2279-0837, p-ISSN: 2279-0845. www.iosrjournals.org.

Kothari, C., R., & Gang, G. (2014). Research methodology. Methods and Techniques (3rd ed.). New Age International Publishers: New Delhi.

Krueger, A., B. & Lindahl, M. (2001) "Education for Growth: Why and for Whom?" Journal of Economic Literature, 39, 1101-1136.

Lent, R., W. (2013). Social Cognitive Careers Theory: Willey. New York.

Lewin, K., M. (2008). *Strategies for Sustainable Financing of Secondary Education in Sub-Saharan Africa:* Africa Human Development Series, World Bank. Washington, D.C.

Maclean, R. & Wilson, N., D. (eds). (2009). International Handbook of Education for the Changing World of Work, Springer Science. Paris.

Majumdar, S. (2008). Industry-institute interaction to public-private partnership: a journey to excellence. *International Symposium on Public-Private Partnership in TVET-Challenges, Opportunities and Best Practices, Manila*, 1-2.http://drupal.cpsctech.org/management/dg/sl/6-industry-institute%20interaction%20to%20ppp.pdf.

Mangwiro, J., N. (2016). *An evaluation of the implementation of Competency Based Education and Training (CBET) curricula in Zimbabwean technical and vocational education Training institutions in 2014* (Doctoral dissertation).

Maria, H. (2009**).** Technical and vocational education and training (TVET) and skills development for poverty reduction – do rural women benefit? International Fund for Agricultural Development, Italy.

McGrath, S. (2005). Key Issues and challenges for transformation. In S. Akoojee, A. Gewer & S. McGrath (Eds.), *Vocational education and training in Southern Africa: A comparative study* (pp. 139-151). HSRC Press. Cape Town.

McKinsey & Company (2013) *the competitiveness repository South Korea Meister schools.* McKinsey & company.

McKinsey & company, (2013) *Beyond Korean Style: Shaping a new growth formula.* McKinsey & company.

McKinsey & Company (2013). *McKinsey on Society.* Available:http://mckinseyonsociety.com/e2e_casestudy/meisterhigh-schools-south-korea/2/

Mincer, J. (1958). "Investment in Human Capital and Personal Income Distribution" Journal

Ministry of Education. (2009). Educational Statistical Booklet 2003-2007, Government Printer: Nairobi.

Ministry of Education. (2012). Republic of Kenya: A Policy Framework for Education; *Aligning Education and Training to the Constitution of Kenya (2010) and Kenya Vision 2030 and beyond.* Government Printer. Nairobi.

Moenjak, T. & Christopher Worswick. 2003. "Vocational Education in Thailand: A Study of Choice and Returns." Economics of Education Review 22 (1): 99–107. https://doi.org/10.1016/S0272-7757(01)00059-0.

MoE. & Korean Educational Development Institute (KEDI). (2012), *Statistical yearbook for employment of higher education graduates (linked with health insurance database),* KEDI.

MoEST. (2005), Kenya Education Sector Support Programme 2005-2010, Government Printer: Nairobi.

MoEST. (2011). TVET Baseline Survey: Report of TVET institutions in Kenya, Government Printer: Nairobi.

MoEST. (2012)**.** Technical Vocational Education and Training (TVET) Policy, Government Printer: Nairobi.

Momo, O., A. (2012). Revitalization of technical education in Nigeria as a vehicle for transformation. In: *Proceedings of COREN 21st Engineering Assembly*, pp. 53–81.

Monika, A. (2011). Technical and Vocational Education and Training: *A study of promising models in International Development,* Education Development Centre-USAID Support Produced by Education Development Centre, Inc.

Monika, A. (2012). Technical and Vocational Education and Training: *Promising Youth Development Strategies,* Education Development Centre-USAID Support Produced by Education Development Centre, Inc.

Montenegro, C., E. & Patrinos, H., A. (2014), Comparable Estimates of Returns to Schooling around the World, Policy Research Working Papers, The World Bank. Washington DC.

Moranga, E., Maroria, A., E. & Nyakal, E. *(2012). A critical Survey on Enrolment in Youth Polytechnics in Kisii Central District, Kenya,* International Journal of Scientific & Technology Research Volume 4, ISSUE 05, May 2015 ISSSN 2277-8616. Nairobi, Kenya.

Morley, K., M. (2019). Fitting in by race/ethnicity: The social and academic integration of diverse students at a large predominantly White university. In *Minority student retention* (pp. 243-270). Routledge. New York.

Mugenda, O., & Mugenda, A.G. (2003). *Research Methods: Qualitative and quantitative approaches*. Acts Press. Nairobi, Kenya.

Nabwire, V., K. (2016). Innovative Pedagogies Inc. Institutions of Higher Learning: Building a Better Future? *European Journal of Education Studies*.

Ngenga, M. (2018). Conference Proceedings of the 8th Trefort Agoston Conference on Vocational and Higher Education Pedagogy, 21-22 November 2018, Obuda University, Budapest ISBN 978-963-449-148-4.

Norman, E. W. & Jack, R.F. (2013). Educational Research: A Guide to the Process, Routledge. New York.

Odu, K., O. (2011). Human capital development in science and technology education: Challenges and new responsibilities of the teacher. Contemporary Educational Technology. 2011;2(3):238-249.

OECD (2010) Vocational Education and Training in Germany Strengths, Challenges and Recommendations.

Office of Management and Budget. (2012). "Analysis of Office of Management and Budget, Analytical Perspectives, Budget of the United States Government, Fiscal Year 2013". New York.

OKEMWA S. K. (2022). *The Influence of Electronics Laboratory Practices on Skill Acquisition by Technician Trainees in Nairobi County in Kenya.* Unpublished PhD thesis. [Online] Available: http//erespository.uoe.ac.ke.

Oketch, M., O. (2007). To vocationalise or not to vocationalise? Perspectives on current trends and issues in technical and vocational education and training (TVET) in Africa. *International Journal of Educational Development, 27*(2), 220-234: http://dx.doi.org/10.1016/j.ijedudev.2006.07.004.

Okolie, O., C., O., Igwe, A., P. & Elom N., E. (2019). Improving graduate outcomes for technical colleges in Nigeria, SAGE Publishing Australian Journal of Career Development.

Okoye, K., R., E. & Okwelle, P., C. (2013). Technical and vocational education and training (TVET) in Nigeria and energy development, marketing and national transformation. Journal of Education and Practice. 2013; 4(14):134-138.

Okwelle, P., C. & Ayomike, C., S. (2014). Towards value re-orientation of youths on the role of technical vocational education and training (TVET) for sustainable development in Nigeria. Journal of Education and Practice. 2014;5(8):186-191.

Okwelle, P., C. & Deebom, M., T. (2017). Technical vocational education and training as a tool for sustainable empowerment of youths in Niger Delta, Nigeria. *International Journal of Innovative Social & Science Education Research. 2017;5*(1):29-38.

Olaniyan, D., A. & Okemakinde. T. (2008). Human capital theory: Implications for Human Resource Development. European Journal of Scientific Research Vol. 24 No.2 (2008), pp.157-162.

Omolo, J. (2013). Employment Challenges in Kenya: African Journal of Economic Review, Vol. 1 No. 1 (2013) Dar es salaam Journal Identifiers ISSN: 2453-5966 print ISSN: 1821-8148.

Orodho, J., A. (2005). *Elements of education and social sciences; Research Methods*: Parents news online 5(5).

Orodho J. A. et.al. (2016). Qualitative and Quantitative Research methods, Kanezja Publishers & Enterprises. Nairobi.

Oryem-Origa, S., O. (2005). Vocational education and manpower development, Lagos: Nigeria Vocational Monograph; 2005.

Osuji, F. (2003). TVET and human resources development: A panacea for national development. Final report of the Sub-Regional Seminar for West Africa. In N. A. Yakubu & S., N. Mumah (Eds.), *Implementing the UNESCO/ILO Recommendations Concerning TVET*. Kaduna: UNESCO. Paris.

Palmer, R. (2007). *Skills Development, the Enabling Environment and Informal Micro-Enterprise in Ghana*: PhD Thesis, the University of Edinburgh.

Powell, L. & McGrath, S. (2013). *Why Students in TVET-The Voices of South African FET College*. Paper presented at the Journal of Vocational and Training Conference. Oxford.

Psacharopoulos, G. & Woodhall, M. (1997). Education for Development: *Analysis of Investment Choice.* Oxford University Press. New York.

Psacharopoulos, G., (1988). *Education and Development: A Review*: World Bank. Washington DC.

Republic of Kenya (RoK). (1964). Kenya Education Commission, Nairobi: Government Printer. Nairobi, Kenya.

RoK. (1999). Report of the Inquiry into the Education System of Kenya (TI QET) Koech Report. Government Printer. Nairobi.

RoK. (2005). Sessional Paper No.1 on Policy Framework for Education, Training and Research. Government Printer. Nairobi, Kenya.

RoK. (2007). Vision 2030: Nairobi, Government Printer. Nairobi.

RoK. (2008). Kenya Vision 2030: A Globally Competitive and Prosperous Kenya, Nairobi: Ministry of Planning, National Development and Vision 2030. Government Printer. Nairobi.

RoK. (2009), Kenya Bureau of statistics. Government printer

Republic of Kenya. (2013). Technical and Vocational Education and Training Act, National Council for Law Reporting in the Attorney General. Government printer. Nairobi.

RoK. (2012). Sessional Paper No. 14 of 2012 on Reforming Education and Training. Government printer. Nairobi.

RoK. (2018). *Public financial management reforms strategy 2018-2023*. Government printer, Nairobi.

RoK. (2019). Sessional Paper No. of 2019 on a Policy Framework for Reforming Education and Training for Sustainable development in Kenya. Government printer. Nairobi.

Republic of South Africa (RSA). (1998). Skills Development Act 97 of 1998. http://www.saqa.org.za/docs/legislation/2010/act97.pdf

Republic of South Africa. (1999)**.** Skills Development Levies Act, 1999. http://www.labour.gov.za/DOL/downloads/legislation/acts/skills-development-act/Act%20-%20Skills%20Development%20Levies.pdf

Riechi, A., R., Rasugu, K., G., Ponge, A., Nyanoti, J. & King'oina, S. (2014). A Baseline Survey for Strengthening Vocational Training in Kisii County (Unpublished work).

Rothschild, S. (2013), "Human capital performance bonds", Community Development Investment Review, No. 01.

Roundtable. (2007. Generating remunerative livelihood opportunities for rural youth, IFAD Governing Council 2007.

Saunders, M., Lewis P. & Thornhill, A. (2009). Research Methods for Business Students (5thedition). Prentice Hall. New Jersey.

Schultz, T., W. (1962). "Investment in Human Capital" American Economic Review, 51, 1-17.

Schultz, T., W. (1971). Investment in Human Capital. The Free Press. New York.

Sekaran, U. (2003). Research Methods for Business: A Skill Building Approach (4thedition). John Wiley and Sons. New Jersey.
Shanti, J. (2013). Skill Development: Promising Approaches in Developed Countries and Emerging Economies. Asian Development Bank. Mandaluyong City.
Shiping, H. & Ruihau, H. (eds). (2015). East Asia Development Model; Twenty-first century perspective Routledge, New York.
Simiyu, J. (2009). Revitalizing a Technical Institute in Kenya. UNESCO. Paris.
Simiyu, J. (2007). Introducing e-Learning as a strategy to increase enrolment in TVET. (A paper presented at the first African UNESCO-UNEVOC Summit on Access & Inclusion for TVET in Africa through New ICT-based Solutions, Safari Park Hotel, Nairobi, Kenya, 28–30 May 2007.
Sudarshana, A., J. (2019). Enhancing Work Skills of Young People in Sri Lanka, ADB Manila.
Tarik M. Y. &. Dhillon N. (2012). *Addressing the 100 Million Youth Challenge: Perspectives on Youth Employment in the Arab World*, World Economic Forum. New York.
The Economist. 2013. "The other arms race. South Korea's education fever needs cooling". Available at: http://www.economist.com/news/special-report/21588204-south koreas-education-fever-needs-cooling-other-arms-race.
Triki, C. (2022, March 17). *How Africa's middle-income countries could be the next South Korea*. African Business. Retrieved February20, 2022 from: https://african.business/2022/03/finance-services/how-africas-middle-income-countries-could-be-the-next-south-korea/
TVETA. (2018). Technical Vocational Education and Training Authority Strategic Plan (2018-2023). TVETA. Nairobi, Kenya.
TVET CDAC (2021). TVET Curriculum Development Assessment and Certification Council (TVET CDACC) Strategic Plan (2021-2025). TVET CDACC, Nairobi Kenya.
Umar, I., Y. & Ma'aji, A., S. (2010). Repositioning the Facilities in Technical College Workshops for Efficiency: A Case Study of North Central Nigeria. Journal of STEM Teacher Education: 47(3) 1-9.
UNDP. (2019) Economic Return to Investment in Education and TVET: Micro and Macro Perspectives. Swiss Agency for Development and Cooperation. New York.
UNESCO. & ILO. (2002). *Technical and Vocational Education and Training for the Twenty-first Century: UNESCO and ILO Recommendations*, UNESCO-UNEVOC Publications. Paris.
UNESCO. (2004). EFA Global Monitoring Report 2005: Education for All – The Quality Imperative. UNESCO. Paris.
UNESCO. (2005). EFA Global Monitoring Report 2006: Education for All - Literacy for Life.
UNESCO. Paris. UNESCO-UNEVOC. (2011). Women and TVET: Report of the UNESCO-UNEVOC
UNESCO. (2013). *Indicators of Skills for Employment and Productivity: A Conceptual Framework and Approach for Low-Income Countries:* Paris: UNESCO. Paris.
UNESCO-UNEVOC (2016). Strategy for Technical and Vocational Education and Training (TVET), (2016-2021) UNESCO. Paris.
UNESCO-UNEVOC. (2017). Diversifying the funding sources for TVET, UNESCO-UNEVOC International Centre for Technical Vocational Education and

training, Bonn: Reports of UNESCO-UNEVOC Virtual Conference 16 to 22 January 2017. UNESCO. Paris.

UNESCO. (2021). Sustainable Development. https://en.unesco.org/themes/education-sustainable development/what-is-esd/sd.

UNESCO. (2022). Draft document for UNESCO Strategy for TVET 2022-2029: Transforming Technical and Vocational Education and Training for Successful and Just Transitions. UNESCO. Paris.

Ullah, S. & Malik, Z., K. (2020). Analysis of the determinants of participation, strengths and weaknesses of vocational trainings of federally administered tribal area's development authority. *International Journal of Economics and Financial Issues*, *10*(3), 149–157.

Uzoagulu, A., E. (1993). Towards an Effective Equipment Management (EEM) in Schools for Economic and Technological Self-reliance. *Nigerian Vocational Journal*: 6(1), 27-30.

World Bank. (2003)**.** *Vocational Skills development in Sub Saharan Africa,* Working Group for International Cooperation in Skills Development, Edinburgh

World Bank. (2004). Skills development in Sub-Saharan Africa, World Bank. Washington DC.

World Bank. (2008). Education for Dynamic Economic Growth: Action Plan to accelerate Progress towards Education for All, World Bank. Washington.

World Bank. (2012). Leading with Ideas: Skills for Growth and Equity in Thailand, World Bank. Washington.

World Bank Group. (2014). Sustainable Development http://www.worldbank.org/en/topic/sustainabledevelopment# Retrieved January, 08,2020. World Bank. (2018).

The World Development Report 2018; Learning to Realize Education's promise, World Bank. Washington.

World Bank. (2023). *Education: Overview*. New York: World Bank Group.

Word Bank. (2023). *Building Better Formal TVET Systems - Principles and Practice in Low- and Middle-income Countries* World Bank *(English).* WashingtonD.C. Group.

World Economic Forum. (2020). The future of jobs Report 2020

World economic Forum. The Competitiveness Repository South Korea —Meister Schools.

Yuen, C., Y. (2016). 17 Utilizing pedagogical strategies of the learner-centred model in primary small class teaching settings in Hong Kong. *Class Size: Eastern and Western perspectives*, 259.

Zhang, Y., & Cheng, T. (2019). A deep learning approach to infer employment status of passengers by using smart card data. *IEEE Transactions on Intelligent Transportation Systems*, *21*(2), 617-629.

Zite, B., N. & Deebom, M., T. (2017). Enhancing Technical Vocational Education and Training (TVET) as a Tool for National Development in Nigeria: Issues, Challenges and Strategies. *Journal of Education, Society and Behavioural Science. 21(4): 1-9, 2017: Article no. JESBS. 35527 Previously known as British Journal of Education, Society & Behavioural Science. SSN: 2278-0998.*

APPENDICES

Appendix 1: Introduction Letter for Respondents

FACULTY OF EDUCATION
UNIVERSITY OF NAIROBI
P.O. BOX 30197,
NAIROBI.
Dear Sir/Madam,

RE: REQUEST TO COMPLETE RESEARCH INSTRUMENT QUESTIONNAIRE

I am a doctoral student at the Department of Educational Management, Policy and Curriculum studies at the University of Nairobi. I am currently undertaking a research entitled: ***Determinants of efficiency in Skills Development at Technical Vocational Education and Training Institutions in Kisii County, Kenya.*** You have been identified to participate in this important exercise. Kindly, respond to the items in this questionnaire honestly and accurately in order to generate important data for this study. The information obtained will strictly be used for academic purposes. Your identity will be held with uttermost confidence.

Please note that this data collection tool will be collected immediately to facilitate the process of analysis, report writing and utilizations of the findings. The findings of the study will be availed to you on request as soon as the report is completed. Your co-operation is appreciated. Thank you very much for your assistance.

Yours Faithfully,

Ferdinand George Mbeche: PhD Student

Dept. Educational Management, Policy & Curriculum Studies

Appendix 2: Questionnaire for Principals

The purpose of the study is to evaluate the efforts that can be invested in order improve the process skills development at Vocational Education and Training Centres in Kisii County. You have been identified to participate in this study The information gathered will strictly be used for academic purposes and will be handled with utter utmost care and integrity. Please tick where appropriate or fill in the required information in the spaces provided.

SECTION A: BACKGROUND INFORMATION

1. Name of the institution_____
2. Please indicate your gender: Male () Female ()
3. Kindly specify your level and area of professional training_____
4. Any other training undertaken or in progress (specify)_____
5. List the trades offered, number of instructors and trainees by gender

SECTION B.

1. Comment about the general public attitude towards Vocational Education and Training.
   ---
2. In your view, what strategies can be employed to improve the image of Vocational Education and Training in order to attract and retain more trainees to VETCs?
   ……
   ……
3. Kindly mention some of the steps the County Government of Kisii has taken promote the image of Vocational Education and Training (VET)
4. State four strategies that you have employed to promote the image this VETC
5. Indicate the adequacy of the facilities at your Vocational Education and Training centre and comment on your response. Use the following key for rating: 2 = Adequate; 1 = Not Adequate; 0 = Not Available

Instructional facility	**Rating**			**Comment (are they technologically modern and appropriate to the course)**
	2	1	0	
Workshop tools				
Computers				
Machinery				
Workshop equipment				
Photocopier				

Please, indicate the adequacy of the physical infrastructure at your vocational training centre and comment on your response. Use the following key for rating: 2 = Adequate; 1 = Not Adequate; 0 = Not Available

Physical infrastructure	**Rating**			**Comment (are they technologically modern and appropriate to the course)**
	2	1	0	
Workshops				
Demonstration rooms				
Classrooms				
Libraries				
Preparation rooms				
Laboratories				
Computer rooms				
Internet serving rooms				

6. Mention other training resources, facilities and equipment that are not available but you consider them important to meet quality objectives of the trades offered in this VETC.

   ……
   ……What interventions can the VETC initiate to address the inadequacy of training resource facilities?

   ……
   ……
   ……
7. What initiatives have key stakeholders made so far to expand infrastructural facilities in order to increase enrolment and retention of trainees?
   ……
   ……
   ……
8. What steps need to be taken by the county government to ensure VETC institutions have adequate resources and facilities in order to promote quality training?
   ……
   ……
   ……
   ……
9. What are some of the sources of funding available to this VETC? (Tick all that apply).
   Government funding []
   Donor funding []

Sponsors []
Well-wishers []
Student fees []
Income generating activities []
Other (specify)
……

10. What are some of the financial constraints are facing the VETC in meeting its quality objectives?
……
……
11. Suggest two interventions that can be instituted to improve coordination of financial resources from different sources to attain institutional policy objectives
……
……

12. Suggest strategies that you consider important to strengthen co-ordination among different funding agencies to enhance skills development in this VETC.
……
……
13. To what extent do you use the following statements on the financial management capacity of the Vocational Education and Training Centres. Use the following rating scale: 1 = Strongly disagree; 2 = Disagree; 3 = Moderate; 4 = Agree; 5 = Strongly agree.

Statement	**Rating**				
	1	**2**	**3**	**4**	**5**
Auditors have been playing an important role in improving financial management in this VETC					
Audit plans, Audit manuals and Audit procedure documents are available to assist in the improvement of financial management in this VETC					
Auditors frequently visit the VETC to assess compliance and adherence to financial management protocols and procedures					
It does not take time to get an audited institution's report					
The audit office organizes seminars/workshops to enhance the capacity of VETC managers in financial management and accountability					
Principals require frequent trainings on how to improve purchases and stores system					
Performance appraisals, supply of audit manuals and protocols are frequently made available					
There are no challenges facing the VETC in internal financial control procedures.					

14. To what extent do you use the following statements on the financial management capacity of the VETC in the future? Use the following rating scale: 1 = Strongly disagree; 2 = Disagree; 3 = Moderate; 4 = Agree; 5 = Strongly agree.

Statement	Rating				
	1	2	3	4	5
Principals require frequent trainings on how to improve revenue control system					
Principals require frequent trainings on how to improve budgeting system					
Principals require frequent trainings on how to improve procurement system					
Principals require frequent trainings on how to improve payment system					
Principals require frequent trainings on how to improve financial budgeting system bookkeeping function					
Principals require frequent trainings on how to improve financial reporting system					
The county Government need to improve funding to VETC					
The instructors require in service pedagogical training to improve their teaching-learning effectiveness					

Appendix 3: Questionnaire for Trainees

The purpose of the study is to evaluate the efforts that can be invested in order improve the process skills development in Vocational Education and Training Centres in Kisii County. You have been identified to participate in this important exercise. The information gathered will strictly be used for academic purposes and will be handled with utter utmost care and integrity. Please tick where appropriate or fill in the required information in the spaces provided.

Section A: Background Information

1. Please indicate your gender: Male () Female ()
2. What is your highest academic qualifications: KCPE () KCSE () CRAFT Certificate ()?
3. Please, specify the course you are undertaking----------

Section B

4. Indicate your level of agreement with each of the following statements about the attitude towards TVET

Scale: 1 = Strongly disagree; 2 = Disagree; 3 = Moderate; 4 = Agree; 5 = Strongly agree

Statement	**Rating**				
	1	**2**	**3**	**4**	**5**
VET is meant for people who are unable to enrol in higher academic education institutions.					
Most trainees scored very low grades in primary or secondary school education.					
Most trainees scored very high grades in primary or secondary school education.					
Trainees in VET institutions are highly respected in society.					
There is a growing perception among trainees that VET is a preserve for the poor.					
I can encourage others to join Vocational Education and Training Centre					
My friends and relatives do not like the course I'm doing					
There are many employment opportunities upon successful completion of the course					

4. What steps do you think can be taken to make people to chance their attitude towards this course you are doing?

   _____
   _____

5. Indicate your experience in line with the following curriculum aspects and learning/training facilities.

Curriculum Aspect	Rating				
	Excellent	Very Good	Good	Satisfactory	Poor
Mode of delivery					
Duration for the course					
Classrooms are spacious and well lit					
Workshops are safe and well equipped					
Computer labs have modern equipment					
Workshop training areas are spacious					
Supervision of project work is adequate					
Theory teachings in the classroom connects well with practical					

6. How do you finance your training in this institution? (Tick all that apply to you)

   My parents pay my fees []

   I receive the constituency bursary []

   From government subsidy []

   My sponsor pays for me []

   From well-wishers []

7. Identify some of the problems you face in financing this course.

   ……
   ……
   ……

Appendix 4: Questionnaire for Instructors

The purpose of the study is to evaluate the efforts that can be invested in order improve the process skills development at Vocational Education and Training Centres (VETCs) in Kisii County. You have been identified to participate in this important exercise. The information gathered will strictly be used for academic purposes and will be handled with utter utmost care and integrity. Please tick where appropriate or fill in the required information in the spaces provided.

Section A: Background Information

1. Please indicate the name of your VET Centre (optional) ……

2. Indicate your age bracket 20 years and below [] 21 – 30 years [] 31 – 40 year [] 41 – 50 years []51 - 60 years []

3. How long have you been an instructor?1-3 years [] 4-6 yeas []7-9 years [] Over 10 years []

4. What is your area of specialization?

Other (Specify) ……

5. For how long have you been a tutor?

Less than 1 year []1 – 5 years []

6 – 10 years [] Over 10 years []

6. For how long have you been a tutor in this VET Centre?

Less than 1 year [] 1 – 5 years []

6 – 10 years [] Over 10 years []

Section Two: Delivery Environment

8. To what extent do you use the following statements on the capacity of the VET Centre where you teach? Use the following rating scale: 1 = strongly disagree; 2 = Disagree; 3 = Moderate; 4 = Agree; 5 = strongly agree

Statement	Rating				
	1	2	3	4	5
The Centres has good facilities					
The tutors are highly qualified technical manpower					
There is good management					
The internship programmes are good					
The curriculum adequately prepares students for the job market					
There is inadequate provision of training/teaching materials					
Government policies ensure adequate funding for VET Centres					
There is adequate provision of equipment/tools for hands-on activities					

9. Please, indicate the adequacy of the facilities at your vocational education and training centre and comment on your response. Use the following key for rating: 2 = Adequate; 1 = Not Adequate; 0 = Not Available

Instructional facility	Rating			Comment (are they technologically modern and appropriate to the course)
	2	1	0	
Workshop tools				
Computers				
Machinery				
Workshop equipment				
Photocopier				

10. Please, indicate the adequacy of the physical infrastructure at your vocational education and training centre and comment on your response. Use the following key for rating: 2 = Adequate; 1 = Not Adequate; 0 = Not Available

Physical infrastructure	**Rating**			**Comment (are they technologically modern and appropriate to the course)**
	2	1	0	
Workshops				
Demonstration rooms				
Classrooms				
Libraries				
Preparation rooms				
Laboratories				
Computer rooms				
Internet serving rooms				

11. Based on your experience in the field of technical and vocational education and training, what can you say about the society's attitude towards this sector?

    _____

    _____

    _____

12. In your view, why do you think vocational education and training is viewed this way?

    _____

    _____

13. In your opinion, how can the society be sensitized about the importance of vocational education and training?
14. _____

    _____

    _____

15. Suggest other possible interventions that can be initiated to improve the attractiveness of the courses offered in your VETC.

_____

_____

16. Based on your experience in vocational education and training, do you consider industry-institution partnership important in improving skills development? YES/NO. Explain

    _____

    _____

17. Please suggest steps that you consider important that can be taken to enable the trainees to participate in industrial attachment?

    _____

    _____

18. In your view, does the course/trade you teach have adequate?

    i. Teaching and learning facilities

    Yes [] No []. Explain your response.

    _____

    _____

    ii. Training facilities and equipment

    Yes [] No []. Explain your response.

    _____

    _____

    iii. Trained and qualified Instructors

    Yes [] No []. Explain your response.

    _____

    _____

    _____

    __

    iv. Physical facilities

    Yes [] No [] Explain

    Explainyourresponse_____

    _____

19. What strategies can be used to ensure that your vocational education and training centre have sufficient training resources and facilities?

_____

_____

20. What advice would you give towards strengthening internship/industrial attachment in order to improve the quality of graduates from VETCs?

_____

_____

21. What is your special message about the future of Vocation Education and Training Education to key stakeholders?
    i. The trainees
    .....
    .....
    ii. Parents of Trainees

    ---
    iii. Principals

    ---
    iv. BOM of VETCs

    ---
    v. The community

    ---
    vi. Curriculum developers for Technical Vocational Education and Training Education.

    ---
    vii. The County Government of Kisii

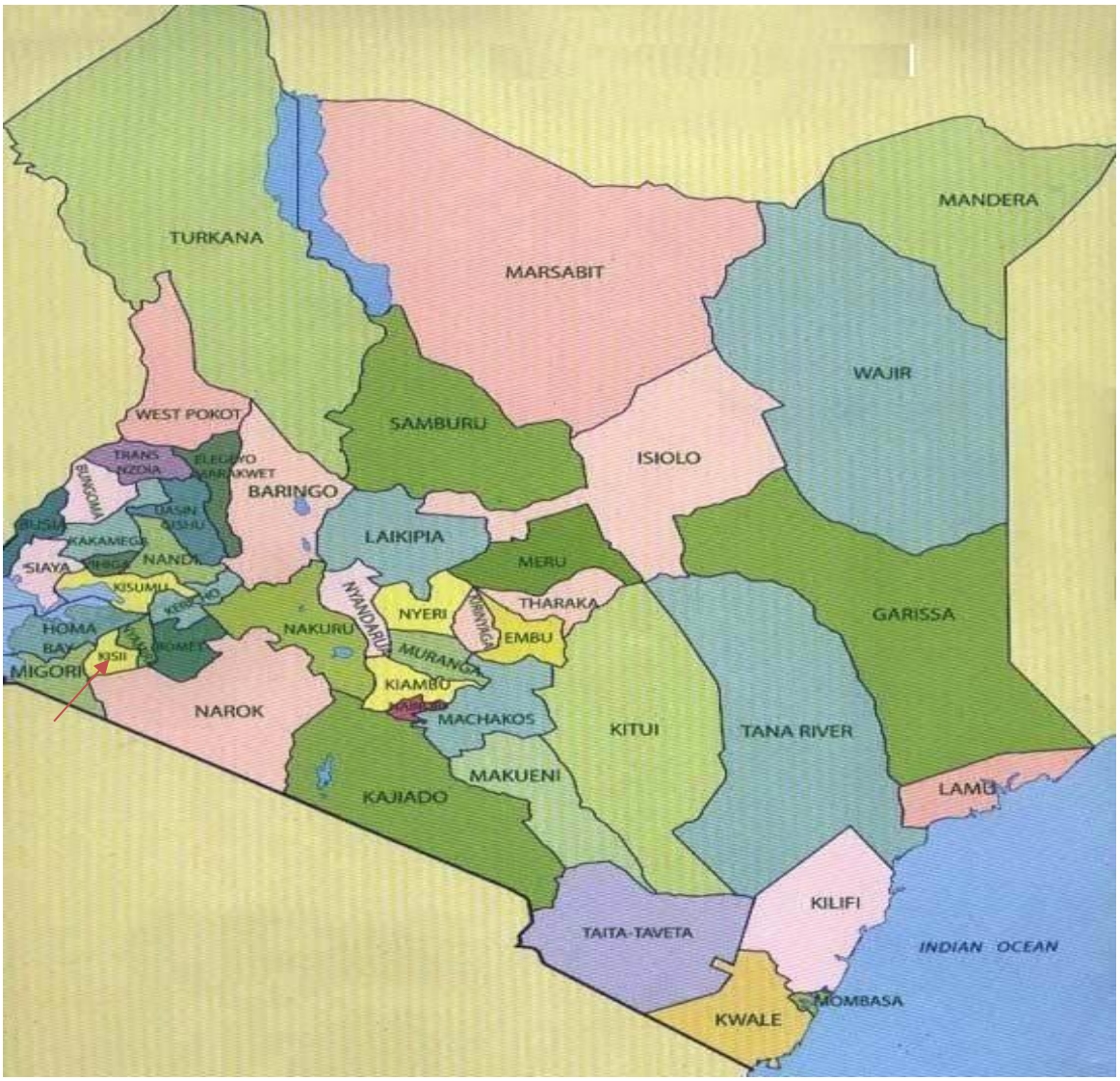
Appendix 5: Interview Guide for County Director of Education; Sub County Director of Education, and County Executive Committee member for Education and Manpower Development

1. What are the main sources of funds to VET Institutions?
2. How are funds for VET from various sources (the national and county government) managed and coordinated? (Probe for structure and mechanisms)
3. How effective is the financial coordination process? (Probe for capacity: staff, financial resources; challenges in coordination; lessons learnt, and what should be done).
4. What are some of the financing Monitoring and Evaluation Strategies? (Probe for mandate, pillars, staff, operations, achievements, gaps/challenges and what should be done to improve M&E)
5. What is the County's financial management and reporting strategy framework and how effective has it been used? (Probe for utilization, effectiveness, good practices, and gaps/challenges, and recommendations to improve them).
6. What is the County's financial communication strategy? (Probe for utilization, effectiveness, good practices, and gaps/challenges, and recommendations to improve them).
7. What informs the amount of funds allocated to the Vocational Educational and Training Centres (in the county? (Probe for sustainability, future changes in fund amounts, and disbursements)
8. What are some of the financing challenges that you have been facing in your efforts of improving the quality of VET training? (Probe for how they were mitigated and suggestions for addressing similar challenges in future)
9. How do you execute your role of receiving and advising on policy briefs on improving the quality of education and training in the county?
10. What are some of the innovative strategies that may be employed to enhance resource mobilization, allocation and utilization for the VETC?

Appendix 6: Interview Guide for County School Auditors

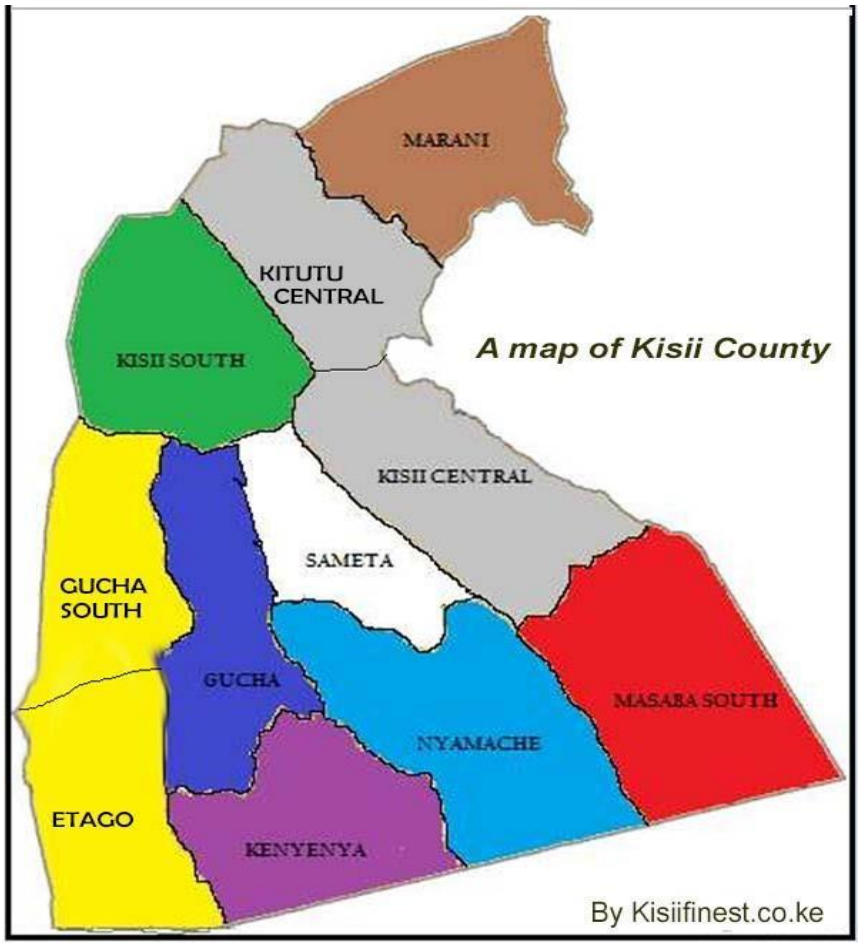
1. What role do you play in improving financial management in VETCs? (Probe for what makes this unit critical and how it operates including when it does school audits, how up-to-date the audits are).
2. Are Audit plans, Audit manuals and Audit procedure documents available to assist in the improvement of financial management in VETCs? (How were the documents (Probe for dissemination, relevance, effective use, challenges and suggestions for future)
3. How many school Auditors does the county have in total? (Provide for adequacy and effectiveness in service delivery)
4. What challenges has your office during the auditing of VETCs?
5. How frequent do auditors visit VETCs to assess compliance and adherence to financial management protocols and procedures? (Probe for personnel, facilitation)
6. How long does it take to submit an audited institution's report to the 'Director of School Audits' Office? (Probe for format and timeliness of audits)
7. What steps has your office taken to enhance the capacity of VETC managers in financial management and accountability? (Probe for capacity building trainings and seminars, performance appraisals, supply of audit manuals and protocols)
8. What are some of the challenges that are common in most VETCs in internal control procedures? (Probe for ability to use financial management manuals and tools, capacity building of Centre Managers and Board of Management members, disclosure, inclusivity, diversity)
9. From your auditing experiences, what are some of the common types of fraud encountered in VETCs)
10. In your view, how do you think institutional internal control procedures can assist in improving financial management and accountability in VETCs (Probe for the benefits of the controls, how can these benefits be improved in the future)
11. Suggest recommendations that can be used to enhance financial management and accountability in VETCs (Probe how to strengthen school governance and accountability, going forward)?
12. From your auditing experience, how do you think the following component of internal control may assist VETC to enhance attainment quality training objectives:
    a. Planning System
    b. Budgeting system
    c. Procurement system
    d. Revenue control system
    e. Purchases and stores system
    f. Payment system
    g. Bookkeeping function
    h. Financial reporting system
13. How do you certify completion of a school audit process? (Probe issuance of certificate, recording of audit issues found).
14. What recommendations would you give to fast-track the institutional audit processes in the County?

Appendix 7: Location of Kisii County



Source: KNBS, 2022

Appendix 8: Kisii County Administrative Units



Source: Internet

Appendix 9: Population Distribution and Density by Sub-County in Kisii County

Sub-County		2019 Census		2022 projection		2025 projection		2027 projection	
	Area (km²)	Population	Density	Population	Density	Population	Density	Population	Density
Etago	108.4	83,787	773	88,107	813	90,633	836	92,038	849
Gucha	82.1	83,740	1,020	88,057	1,073	90,582	1,104	91,987	1,121
Gucha South	95.2	83,623	878	87,934	924	90,456	951	91,858	965
Kenyenya	141.7	131,740	930	138,532	978	142,504	1,006	144,713	1,022
Kisii Central	135.8	166,906	1,229	175,511	1,293	180,543	1,330	183,343	1,350
Kisii South	128.3	135,134	1,054	142,101	1,108	146,175	1,140	148,442	1,157
Kitutu Central	100.3	154,175	1,537	162,124	1,617	166,772	1,663	169,358	1,689
Marani	128.4	107,464	837	113,004	880	116,245	906	118,047	920
Masaba South	161.2	122,396	759	128,706	799	132,397	822	134,449	834
Nyamache	162.7	130,898	805	137,647	846	141,593	871	143,789	884
Sameta	79.1	66,997	847	70,451	891	72,471	917	73,595	931

Source: KNBS, 2022

Appendix 10: Population Projections by Sub-County and Sex in Kisii County.

	Census (2019)				Projection (2022)			Projection (2025)			Projection (2027)		
Sub-County	**Male**	**Female**	**Inter sex**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Etago	40,137	43,647	3	**83,787**	43,840	44,271	**88,107**	44,831	45,806	**90,633**	45,372	46,670	92,038
Gucha	39,631	44,108	1	**83,740**	43,288	44,739	**88,057**	44,266	46,290	**90,582**	44,800	47,163	91,987
Gucha South	40,022	43,598	3	**83,623**	43,715	44,222	**87,934**	44,703	45,755	**90,456**	45,242	46,618	91,858
Kenyenya	62,859	68,878	3	**131,740**	68,659	69,863	**138,532**	70,211	72,285	**142,504**	71,058	73,648	144,713
Kisii Central	81,330	85,578	3	**166,906**	88,834	86,797	**175,511**	90,842	89,806	**180,543**	91,938	91,500	188,343
Kisii South	64,514	70,615	5	**135,134**	70,467	71,625	**142,101**	72,059	74,106	**146,175**	72,929	75,506	148,442
Kitutu Central	74,608	79,561	6	**154,175**	81,492	80,699	**162,124**	83,334	83,496	**166,772**	84,339	85,071	169,358
Marani	50,598	56,864	2	**107,464**	55,267	57,678	**113,004**	56,516	59,677	**116,245**	57,198	60,802	118,047
Masaba South	58,143	64,248	5	**122,396**	63,508	65,167	**128,706**	64,943	67,426	**132,397**	65,727	68,698	134,449
Nyamache	62,113	68,782	3	**130,898**	67,844	69,766	**137,647**	69,378	72,184	**141,593**	70,214	73,546	143,789
Sameta	31,829	35,164	4	**66,997**	34,766	35,667	**70,451**	35,552	36,903	**72,471**	35,980	37,599	73,595
Total	**605,784**	**661,043**	**38**	**1,266,860**	**661,680**	**670,494**	**1,332,174**	**676,635**	**693,734**	**1,370,371**	**684,797**	**706,821**	**1,396,619**

Sources: KNBS,2022

Appendix 11: Population Projections by Age Cohort

	Census (2019)			Projection (2022)			Projection (2025)			Projection (2027)		
Age Cohort	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
0-4	71,813	71,694	**143,597**	74,578	75,742	**150,321**	74,338	75,039	**149,376**	72,690	73,366	**146,056**
5-9	86,080	85,870	**171,950**	71,888	73,223	**145,111**	72,708	75,247	**147,955**	72,560	74,784	**147,344**
10-14	98,067	97,319	**195,386**	69,855	70,737	**140,592**	69,348	70,093	**139,441**	69,889	71,432	**141,321**
15-19	75,142	75,025	**150,167**	68,433	69,345	**137,778**	67,162	69,142	**136,304**	66,860	68,741	**135,601**
20-24	45,597	56,929	**102,526**	66,036	65,546	**131,582**	66,458	67,450	**133,908**	65,661	67,344	**133,005**
25-29	39,271	51,801	**91,072**	63,238	61,801	**125,039**	62,682	61,780	**124,463**	63,003	63,052	**126,055**
30-34	39,158	54,522	**93,680**	55,729	54,881	**110,610**	60,094	58,761	**118,855**	59,784	58,783	**118,567**
35-39	30,178	30,559	**60,737**	45,810	45,262	**91,072**	49,692	49,125	**98,817**	52,473	51,594	**104,067**
40-44	26,770	26,848	**53,618**	37,120	36,817	**73,937**	39,970	39,636	**79,606**	42,420	42,083	**84,503**
45-49	21,495	26,405	**47,900**	30,328	31,690	**62,018**	31,911	32,119	**64,030**	33,667	33,887	**67,554**
50-54	14,914	14,594	**29,508**	21,587	22,787	**44,374**	25,872	28,388	**54,260**	26,824	28,676	**55,500**
55-59	18,077	20,538	**38,615**	16,423	17,190	**33,613**	15,965	17,158	**33,122**	18,461	20,573	**39,034**
60-64	14,127	16,584	**30,711**	13,245	14,265	**27,510**	13,625	15,432	**29,057**	13,399	15,440	**28,839**
65-69	9,754	11,775	**21,529**	9,215	10,404	**19,618**	9,839	12,015	**21,854**	10,086	12,720	**22,806**
70-74	7,030	8,514	**15,544**	6,836	7,864	**14,700**	6,117	8,212	**14,329**	6,483	9,175	**15,658**
75-79	3,439	4,438	**7,877**	4,247	5,131	**9,377**	4,574	6,492	**11,066**	4,340	6,701	**11,040**
80+	4,872	7,593	**12,495**	7,811	7,811	**14,921**	6,280	7,647	**13,927**	6,198	8,468	**14,666**
Total	**605,784**	**661,008**	**1,266,912**	**662,379**	**670,496**	**1,332,173**	**676,635**	**693,736**	**1,370,370**	**684,798**	**706,819**	**1,391,616**

Appendix 12: Research Permit

Sources: KNBS, 2022

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 25979

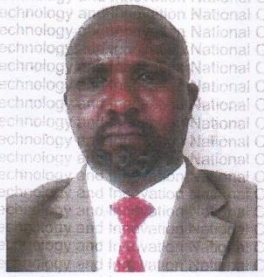
CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. FERDINAND GEORGE MBECHE
of UNIVERSITY OF NAIROBI, 92-902
Kikuyu,has been permitted to conduct
research in *Kisii County*

on the topic: *DETERMINANTS OF EFFICIENCY IN SKILLS DEVELOPMENT IN TECHNICAL VOCATIONAL EDUCATION AND TRAINING IN KISII COUNTY, KENYA*

for the period ending:
23rd July,2020

Permit No : NACOSTI/P/19/64071/31750
Date Of Issue : 24th July,2019
Fee Recieved :Ksh 2000



.....
Applicant's Signature

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