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Research Paper

Influence of Training Facilities and Equipmenton Access to County Vocational Education and Training Institutions in Makueni County, Kenya

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ABSTRACT
The purpose of this study was to investigate the influence of training programmes on access to County Vocational Education and Training institutions in Makueni County, Kenya. The study was informed by the existence of a large number of youths in the County who have not enrolled in CVETIs hence leading to high population of idle youths with low or no relevant employable skills which contributes to increased dependency ratio, high unemployment rates, engagement in drug and substance abuse and other social-evils. The study sought to investigate whether, the the training programmes offered influence access to County Vocational Education and Training Institutions in Makueni County, Kenya. The study was guided by Human Capital Theory (HCT). The study employed descriptive research design. The study targeted 28 registered Public Vocational institutions in Makueni County. The study used stratified simple random sampling and purposive sampling techniques to obtain a random sample of 21 managers, 87 instructors and 316 trainees drawn from 21 randomly selected Vocational institutions. Questionnaires, interview schedule and an observation check list were used to collect data. Data were processed and analyzed qualitatively and quantitatively. Quantitative analysis used descriptive and inferential statistics computed using a computer programme (SPSS version 23 computer package). Descriptive statistics were generated and used in describing and discussing the research findings. Statistical tests were done using a T-test and one-way analysis of variance (ANOVA) at 95% Confidence Interval of the difference (α=0.05).The finding of the study revealed that, the training facilities and equipment in most vocational institutes are inadequate, technologically irrelevant and not meeting the standards of the industry. Based on this findings the study recommended that, the institutions should provide technologically relevant training equipment to promote the quality and relevance of skill development process.

Key words: *Training equipment, quality and relevance, County vocational education and training institutions, access, prospective trainees.*

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I. Introduction.

Career-oriented education and training programme that focuses on remaining relevant and responsive to industrial manpower demand, promotes public perception on the importance and value of Technical Vocational Education and Training (TVET).The process of career decision making is a complex and an involving moment in one's life especially for the youth (UNESCO-UNEVOC, 2020). It is a critical decision that basic education graduates need to make at the end of their compulsory basic education to decide between an academic or Vocational Education and Training (VET) pathway. Making an informed career decision is an important undertaking that creates an opportunity to acquire quality and relevant skills, knowledge and other attributes that enables a graduate to participate competitively in the knowledge economy and remain competitive in the 21st century labour market (Carnevale, Smith, &Strohl, 2013). A well thought education and training pathway based on the student's abilities and interest has a significant impact on one's career success, career progression, job satisfaction and efficient service delivery (Farid, 2019). "Quality and affordable Technical and Vocational Education and Training (TVET) is one of the United Nations Sustainable Development agenda items for ensuring equal access to education and training for all by the year 2030 (United Nations, 2015)." This

implies that the youthful population across the world should acquire quality and relevant employable skills, for employment in both formal and informal sectors, create job opportunities for others and promote entrepreneurial culture. In this regard, an all-inclusive education and training is a right. Every person regardless of gender, age, religion, disability or ethnic background has an equal opportunity to education and training as outlined by various Sustainable Development objectives (United Nations, 2015). Nevertheless, as the fundamental right to accessing education and training is being recognized within educational reforms frameworks across the world, young people and adults still face difficulties in accessing TVET programmes (Garcia, Toledo, &Rodrizguez, 2020).

The significant recognition of the importance of TVET in international discourse and policies is yet to shape up the image of TVET when compared with the academic education track. The challenge is experienced more in the third world countries where it has been observed that the enrolment in TVET has not improved significantly as many basic education graduates continue to prefer the academic education track as their first choice. This has made TVET to have a low image and therefore making it a universal concern (UNESCO-UNEVOC, 2018). Due to negative public image of VET, enrollment in TVET is major concern for educational stakeholders and the education sector at large. According to Farid (2019), technologically irrelevant and insufficient training equipment and facilities has been cited to have a significant contribution to the quality and relevance of skill development. Based on these findings, the quality and relevance of training equipment could significantly contribute to low enrolment in TVET.Globally, TVET has significantly influenced the development of knowledge, skills, competencies and expertise necessary for development initiatives which are critical for sustainable societies and economies. To this end, the quality of skill development process determines the quality of the generated of human capital in terms of knowledge, skills and appropriate attitudes (UNESCO-UNEVOC, 2020). Basically, the acquisition and effective application of these attributes results to sustainable economic development, enhances social mobility, national cohesion and development.

The skills and knowledge that youthful population acquire must therefore be relevant to the current economy, meet their needs and aspirations (Otero, 2019). This implies that the soft skills and technical skills the young people acquire must be relevant to the current economy to enable the country to realize demographic dividend. TVET sector has been considered to be the foundation for any successful economy since it boosts the value of the products produced in an economy as indicated in the Global Education Report 2016 (UNESCO, 2016). Evidence based on a research carried by MacDonald, Nink, & Duggan (2014), on "the principles and strategies of a successful TVET programme" indicates that, an effective TVET sector in any country should be based on quality labour market information, industry demands and the employees' needs mostly in key trades and occupations (MacDonald, Nink, & Duggan, 2014). With the adoption of TVET reforms in South Korea, her economic development since 1950s has been attributed to the establishment of skill development programme focusing on industrial trades and enhancing access to quality training opportunities to improve individual's productivity(Chun & Kyu, 2012). This was achieved through establishment of training infrastructure, provision of quality training environment, capacity building and ensuring adequate linkage between labour market needs and training programmes by projecting future skills requirements. The implementation resulted to modernization and expansion of TVET institutions to address skill gap in the job and employment market, connected the industry and the sustainable development needs with TVET programmes, improved TVET institutions through teacher training, qualification and curricula reform and provision of pedagogical resources and equipment.

This has contributed to the production of quality TVET graduates whose capacities make them more competitive locally and internationally to promote the county's productivity which has led to increase in her real income and improved standards of living (People's Republic of China, 2018). The socio-economic advancement of Taiwan, Singapore, and Hong Kong, is attributed to the strategic mechanisms of linking the world of skill development and the world of work. This made training and skill development a priority to meet their economic aspirations and a close alignment between the vocational training system and labour markets, increased access, equity and quality to TVET programmes and the ability to maintain the links through time was considered essential (Gopinathan, 2011). The Government of Singapore has highly invested in TVET to provide quality education and training which address the training needs of her population and ensuring that the acquired skills remain relevant to the job market(UNESCO-UNEVOC, 2020). Its significant achievement in skills development has been necessitated by the equal participation of both the academia and the industry. The skills development is driven by various TVET strategies and policy documents which includes; Skills-future Singapore Agency Act 2016 (No 24 of 2016), Workforce Singapore Agency Act 2003, Industry Transformation Maps 2016 (UNESCO-UNEVOC, 2020). In Australia, VET is directly linked to employment where the trainees are required to undertake apprenticeship throughout their training. This enables graduates to get employment opportunities immediately. The training is highly demand driven designed to meet both the immediate and long-term industrial requirements(MacDonald, Nink, & Duggan, 2014). The VET sector emphasizes on training graduates who are well equipped with employable skills with no need for on-the-job training. The industry in this case is highly involved to enhance market oriented training courses.

Through collaboration and coordination, the employers are involved in determination of the training needs to meet the industrial demand gaps while keeping pace with the changing technology and the rise of new sets of training skills (MacDonald, Nink, & Duggan, 2014). It is evident that, employers' collaboration and coordination is essential for an industry driven training. In this regard, in a responsive VET sector, the employers determines the educational and training needs to address the unmet demand which is a dynamic process thus making it necessary to keep pace with the ever-changing technology. The upgrading and review of the VET packages in Australia is based on the industry skill requirements. The training courses are regularly revised to address the needs of the industry and prospective trainees seeking qualification opportunities. Through the Australian skills Quality Authority (ASQA), the training packages have been designed to address the trainees needs (delivering training experiences and qualifications that are relevant to employers and the industry) that has resulted to the development of confidence in the Australia's training sector(UNESCO-UNEVOC, 2018). Research done by Acakpovi and Nutassey (2015), indicated that most of the vocational institutions in Africa are inadequately equipped with training facilities and equipment, the linkages with labour user institutions does not inform the curriculum development and reforms, which does not respond to the labour market needs and therefore has led to low enrolments and high levels of educated unemployed among young graduates of TVET over the years. The few graduates who get employment opportunities have to be retrained in their industry to improve their capacities and productivity. (Acakpovi & Nutassey, 2015).

According to Billet (2018), enrolment in Egypt in VET has remained low. In a study to review work-based learning programmes for young people in the Republic of Egypt, he observed that there exists an historical vicious cycle of negative image of VET mostly by the students and their teachers. In the Egyptian society, VET is seen as a choice for those who fail to get admissions in the academic track which has made it to remain a last option for the young people. He further noted that, VET and its related occupations has been positioned by the society as being of low status and worth. This has made the young people and their parents to make deliberate choice to pursue education along the general education pathways. Though the phenomenon is well documented and acknowledged, he cited that the Government has done little to create awareness in order to change this perception(Billet, 2018).

Education in Kenya is anchored on the Constitution of Kenya as a fundamental human right. This has informed policy provisions developed to address the constitutional requirements and direct national aspirations(Republic of Kenya, 2012). National aspirations and the critical role of education are articulated in the Kenya Vision 2030 which advocates for the link between training institutions and the job market in order to create stock of human capital with relevant skills, competencies, soft skills and attitudes essential in the work place(Republic of Kenya, 2014). The TVET sub-sector in Kenya, like any other sub-Saharan African country has witnessed institutional related challenges that may limit training opportunities for the youth to enable them cope with the dynamic labour market requirements, industrial and technological development.

The training environment whose key components are; relevant training programmes, training facilities and equipment, competent trainers and career progression information are critical for labour market oriented training. Currently, in Kenya there is a high percentage of youth population who are legible for training in Vocational institutions as a result of mass Basic secondary education graduates whose performance is below the university entry requirements and other tertiary institutions(Ministry of Education, 2019). VET in Kenya is a devolved function of the County Government as outlined in chapter eleven (Devolved Government) of the Constitution of Kenya (2010) in the fourth schedule of the Constitution (Republic of Kenya, 2010). Makueni County recognizes access to VET as an important avenue for creation of a well trained workforce for the County's sustainable social economic transformation (County Government of Makueni, 2016). Most of the youths in the County have not enrolled in CVETIs denying them to acquire employable skills. VET remains paramount to enable one make a step from being unemployable to employability. Most of them are idle. This has increased dependency on working population, led to high cases of unemployment, engagement in drugs and substance abuse and other social-evils. They are vulnerable and poorest in a total population of (26%). The youths are left with no option but to destroy their environment to survive. Access to CVETIs remains an issue of concern in Makueni County (County Government of Makueni, 2016).

Statement of the problem

As the fundamental right to accessing education and training is being recognized within educational reforms frameworks across the world, young people and adults still face difficulties in accessing TVET institutions. The significant recognition of the importance of TVET in international discourse and policies is yet to shape up the image of TVET as prospective trainees continue to prefer the academic education track as their first choice regardless of their inability to meet the minimum entry requirements. The challenge is experienced more by the third world countries whose investment in TVET sub-sector is significantly low. This has led TVET to have a low image, unattractive and therefore making it a universal concern. Currently, in Kenya there is a high percentage of youth population who are legible for training in Vocational institutions as a result of mass

basic Secondary education graduates whose performance is below the University entry requirements and other tertiary institutions.

The Government's efforts to devolve VET to Counties to enhance skills development, employment of affirmative action to increase enrolment of the high number of prospective trainees has not to a large extend increased access to CVET institutions whose enrolment has remained low both nationally and in Makueni County. The low enrolment is worrying prompting a question, what could be the cause to low enrolment? The idle unemployable youthful population increased dependency on the working population, led to high unemployment cases, engagement in drugs and substance abuse and other social-evils which is a major development challenge. These makes the youth more vulnerable hence they are left with no option but to destroy their environment to survive causing a continued environmental degradation. Little empirical evidence exists on whether institutional factors influence enrolment in CVETIs especially in Makueni County. In view of this gap, this study investigated the contribution of institutional factors on access to CVET institutions so as to re-strengthen the practical skills, knowledge, and improve the enrolment in County Vocational Education and Training institutions. TVET remains the first paramount step from being unemployable to employability.

1.3 Purpose of the study

The purpose of this study was to investigate the influence of institutional factors on access to County Vocational Education and Training institutions in Makueni County.

1.4 Research objectives

The study was guided by the following specific objective.

i. To assess the extent to which adequacy of training facilities and equipment influence access to Vocational Education and Training Institutions in MakueniCounty,Kenya

1.5 Null hypotheses

In order to test the independent variables, a null hypotheses was developed.

$H_0 2$. There is no significant relationship between the adequacy of training facilities and access to Vocational Education and Training institutions in Makueni County

Theoretical framework

The study was based on the Human Capital Theory (HCT) whose origin can be traced to the work of Adam Smith in 1976. The theory affirms that, the well-being of a society is a function of financial capital, labour, natural resources as well as knowledge and skills of individuals.This theory predicts that increased knowledge and skill will yield improved economic outcomes for both individuals and societies, especially in modern societies, where it is widely held that knowledge and skill convey a greater economic and social premium than in the past. The study focuses on the conditions required to achieve the desired education and training outcomes. The theory fits in this study based on the evidence that, education and training is an investment whose relevance can be guaranteed in labour market driven institutions(Psachoropoulos & Woodhall, 1997). Using the theory, the study sought to investigate whether relevance and adequacy of training facilities and equipment as an institutional factor has an influence on trainees' access to CVETIs

II. Literature Review

Institutional infrastructure is considered to be an important base for effective training in TVET. The main goal of adequate and operational infrastructure is to increase the institutions' enrolment, enhance staff motivation and improve the education and training outcomes. Institutional infrastructure includes; the classrooms, training facilities and equipment, workshops and other physical facilities necessary to support enrolment and provision of quality education and training(Umar, 2019).

According to TVET regulations (2015), a training institution to be legible for licensing, it's required to establish adequate training physical facilities for the training programmes. In Section 8 it states that, "An institution shall provide adequately equipped workshops or laboratories where these are these are required by the curriculum offered, and where the institution offers courses regulated by professional bodies"(Government of Kenya, 2015). The skills mismatches experienced in most third world countries could be attributed to the quality of the training environment which goes beyond the industry and academia participation and collaboration. The adequacy of quality, relevant and operational training facilities is paramount. The opposite compromises the relevance of training. In line with the important role played by industries in socio-economic development in many African countries, ill-trained TVET graduates could less contribute a sustainable growth and social-economic development of most of the Sub-Saharan Africa countries(Yegon, 2016). To provide quality and relevant training programmes in TVET, the training environment should be aimed at producing a stock of human capital who are innovative and creative to contribute substantially in sustainable development (Ayonmike, Okwelle, & Okeke, 2014).

According to Oduor et al 2017,in a study done in Nakuru County to assess the Youth polytechnic student's perception of vocational training found out that, the quality of TVET programme that meets the trainee's expectations is determined by the quality of the training facilities which is part of the training environment. It is at this point that the institution that is committed to meet the trainees' expectations should focus on improving their training facilities and equipment. The study observed that, the perceptions of these training facilities and equipment contribute to VET image and prospective trainees put into consideration this important aspect in their evaluation process to decide the kind of institution to consider for enrolment(Oduor, Kubutha, Tabuche, & Masese, 2017). The inadequacy of training facilities / infrastructural resources coupled with inadequate career counselling, social stigma towards VET graduates, inadequate job education has been associated with low enrolment in TVET institutions in Malaysia. In Malaysia, VET is considered a last option training choice as compared to the main academic track which has contributed to low enrolment for VET training courses(Muhd, et al., 2020). VET's fundamental aim is to equip the learner with practical skills. Gaining such appropriate design, construction and repair skills calls for a well-functioning infrastructural and machinery facilities to ensure effective, efficient and resilient employable skills for learners. Inadequacy of such important facilities would negatively influence students' enrolment in vocational institutions(Muhd, et al., 2020).

A study carried out by Ifeyinwa&Serumu (2016), in Naigeria on constrains and remedy to quality vocational skill development established that, the training facilities in most of the vocational institutions were different from the ones in the industries where the TVET graduates are expected to seek for employment and participate productively. According to the study, the training facilities were observed to be inadequate, outdated, and non-operational which could less key requirements for effective and quality TVET training. The status of the training infrastructure was found to be a key contributor to low social recognition of VET which translated to low enrolment across the vocational institutions(Ifeyinwa & Serumu, 2016). Research done by Anindo, Mugambi and Matula in Nairobi County (2016), revealed that, most of TVET institutions in the County had inadequate training facilities and equipment, less industry participation and limited flow of market information. The fore stated challenges were noted to have negatively influenced the training and skill development to VET graduates leading to poor acquisition of market oriented skills among the graduates which compromises their employability(Anindo, Mugambi, & Matula, 2016). A study carried out Aguda (2015), at Ramogi Institute of Advanced Technology in Kisumu County to establish the influence of teaching-learning resources on transition rates of Diploma students found out that the cost of buying training materials was a burden to the trainees and was a key contributor to low transition rates at 82.1%. The influence of furniture and other facilities was rated as 48.38% which was rated to be below average.

The findings informed the recommendation for the institution to source for funding to purchase training resources to meet the needs of poor students who could not transit to the next level of study and reduce the dropout rate. From this findings, adequate training facilities and physical infrastructure significantly promote demand for TVET which increases the levels of enrolment in the vocational institutions(Aguda, Odundo, & Rambo, 2015). The study however, did not establish the influence of such important training facilities on the prospective trainees' enrolment for vocational education which creates a gap for further study. This study set out to establish whether the status of the vocational institutions' training resources and physical infrastructure has an influence on access to CVET institutions in Makueni County, Kenya.

III. Research Methodology

Research design

This study employed descriptive research design. According to Kothari & Gaurav (2014), a descriptive research design is concerned with describing the characteristics of a particular individual or a group. The descriptive research design enable researcher to describe or present pictures of a phenomenon or phenomena under investigation (Kothari & Gaurav, 2014). The use of this design enabled the researcher to obtain needed information by interviewing, administering a questionnaire to the sampled subjects and making observations(Orodho, Khatete, & Mugiraneza, 2016). Using this design the researcher summarized the collected data in a way that provided the desired descriptive information to find answers to questions by analyzing without manipulating the variables that relate to the institutional factors influencing trainees' access to vocational education and training institutions.

Target population

Target population is the entire group of subjects from which a representative sample might be drawn. It consists of all the elements, items, individuals or objects from a set of data whose characteristics are being studied(Orodho, Khatete, & Mugiraneza, 2016). Population consists of whole set of data or information from the entire universe, which is considered to be the whole source of information. The study targeted the 28 registered

public County Vocational Education and Training institutions in Makueni County. For this study, the target population comprised of 28 managers, 99 instructors and 3609 trainees. The target population was 3736.

Sample size and sampling procedure

The study used stratified simple random sampling to obtain a representative sample since the target population was not homogeneous. Using this technique, the population was stratified into three non-overlapping strata of the managers, instructors and trainees. Using simple random technique the subjects were selected from each stratum whose effect was to improve representativeness and reduce the sampling error. (Orodho, Khatete, & Mugiraneza, 2016). The sample size of the respondents was determined by use of Taro Yamani formula at 0.05 level of significance with a confidence coefficient of 95% as shown (Yamane, 1967). 21 managers, 87 instructors and 316 trainees were sampled. They were representing at 75%, 56.5% and 9.5 % respectively.

Data collection instruments

The researcher used interview schedule, observation check lists and questionnaires as the data collection instruments for this study. The researcher interviewed 12 managers who were purposively sampled and had been identified from document analysis at the County youth skill development and ICT offices. An observation schedule was used to enable the researcher to verify the information already collected from the informants. Three sets of questionnaires were constructed by the researcher to collect desired information from County Vocational Education and Training institutions managers, instructors and trainees.

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Data collection procedure

The researcher was granted an approval by the University of Nairobi that issued a letter of full registration that enabled the researcher to approach the appropriate agencies in the country to seek permission to collect data. With this approval, the researcher first applied for a research license from National Commission for Science, Technology and Innovation (NACOSTI). The researcher was licensed to conduct research in Makueni County for a period of one year from the date of license issuance (license No. NACOSTI/P/19/1152) as shown in appendix VII. Clearance from the County Commissioner in Makueni County was done on 19th September 2019 who issued a research authorization letter and on the said date an approval by the Chief Education Officer and ICT made. The document is attached as in appendix VIII.

3.10 Data analysis techniques

The researcher cleaned the raw data, coded the data, entered and then analyzed using Statistical Package for Social Sciences (SPSS) IBM version 23. Descriptive statistics were generated and used in describing and discussing the research findings. The standard deviation was used to measure how the responses align with the mean and describe the degree of consistency within the responses. A statistical analysis for managers output – independent sample T-test for independent variables was done. The T-test was considered to be the most appropriate for this study since the standard deviation was unknown and the sample size for the managers was less than 30 ($n<30$)(Orodho, Khatete, & Mugiraneza, 2016). The preliminary test for normality (homogeneity of variances/ equality of variance) was done using levene's test for equality. A statistical analysis for instructors and trainees output whose sample was greater than 30 ($n>30$) was done using the one-way analysis of variance (ANOVA) as the preferred test on mean between two or more variables for association(Orodho, Khatete, & Mugiraneza, 2016). Quantitative data from interview and open ended items in the questionnaire were organized according to themes, coded and integrated with data from closed ended questions for frequencies and percentages. The analyzed data was presented through a pie chart, bar graph and tabular representation of descriptive statistics tables for each variable.

IV. Research Findings and Discussions

To assess the extent to which these institutional factors influenced access to CVETIs, six questionnaire items were presented to managers, instructors and trainees. To establish whether the adequacy of training facilities and equipment had influenced access to CVETIs, a questionnaire item was posed to the managers, instructors and trainees. The data on whether adequacy of training facilities and equipment had an influence on access to CVETIs is in Table 4.28

Table 4.28 Responses on the influence of training facilities and equipment on access to CVETIs

Respondent	YES			NO		
	Frequency	%	valid percent	frequency	%	valid percent
Managers	16	76.2	76.2	5	23.8	23.8
Instructors	58	66.7	66.7	29	33.3	33.3
Trainees	278	89.1	89.1	34	10.9	10.9

Table 4.28 indicates that more than 65 % of managers, instructors and trainees revealed the adequacy of training facilities and equipment is a key contributor to access to CVETIs. The findings supported a research done by Agunda (2015), "on the influence of teaching-learning resources on transition rates of diploma students" where the findings of their study indicated that adequate training facilities and physical infrastructure significantly promote demand for TVET which increases the levels of enrolment in the vocational institutions. The researcher was concerned to establish whether the vocational institutions do provide adequate training materials to trainees for practical course work. The questionnaire item to capture the information was posed to managers, instructors and trainees who provided the data in Table 4.29

Table 4.29 Responses on the provision of training materials to trainees

Respondent	YES			NO		
	Frequency	%	valid percent	frequency	%	valid percent
Managers	8	38.1	38.1	13	61.9	61.9
Instructors	13	14.9	14.9	74	85.1	85.1
Trainees	55	17.6	17.6	257	82.4	82.4

The data from Table 4.29 shows that most of the sampled vocational institutions does not provide adequate training materials to the trainees. Taking the responses provided by the trainees and instructors given by 257 or 82.4 % and 74 or 85.1 % respectively shows that there is a big problem on the provision of training materials. The responses were confirmed through document analysis where the researcher requested for a copy of the admission letter for the year 2019. In most cases, various vocational institutions had included a long list of training materials to be brought by the trainees as they report for admission. The training materials and tools were based on the course that the trainee had been placed to train. The findings of this study were in support to the outlined status of TVET institutions in sessional paper No 1 of 2019 on A Policy Framework for Reforming Education and Training for Sustainable Development in Kenya. It has been observed that, despite the Government's efforts and commitment to address perennial challenges facing the TVET sub-sector, there is limited customized training and learning materials (Ministry of Education, 2019). It was observed that trainees are required to buy training materials based on their area of training. Cost of these materials increases the cost of training which could be a barrier to those prospective trainees who could not afford to purchase them in addition to uniform, other personal effects and the training fees. The increased costs of education and training reduces the demand for education which in the long run leads to low enrolment as only those who are able can enroll for the training. To find out where the trainees get the training materials from in a situation where the institution does not provide, a questionnaire item was constructed to capture the information is in Table 4.30

Table 4.30 Responses on the sources of training materials if not provided by the institution

Respondent	buy		learn theory only		use what is available	
	frequency	%	frequency	%	frequency	%
Managers	5	23.8	0	0.0	8	38.1
Instructors	33	37.9	0	0.0	41	47.1
Trainees	169	54.2	15	4.8	73	23.4

Table 4.30 shows that 38% of managers and 47.1% of instructors revealed that in a situation where the vocational institutions does not provide adequate training materials they use what is available for practical course work. The researcher observed a common practice in most of the institutions where the trainees taking building technology could construct a building structure and destroy the same to obtain the materials for another group to use the same during their practical training session. The trainees' response was disheartening where 169 or 54.2 % out of 257 who had indicated that the institution does not provide adequate training materials indicated that truly they buy the required materials. Due to increased costs of the materials and their diversified

economic backgrounds, it was disclosed by the managers who were interviewed that not all trainees manage to buy the said materials and they end up skipping practical sessions and in the long run they drop out. They called for support to address the issue.

4.5.1 Responses on adequacy of training facilities and equipment in the vocational institutions

To determine the extent to which infrastructure related factors influenced access to CVETIs, five questionnaire items were presented to managers, instructors and the trainees. They were required to rate the five statements constructed to assess the contribution of adequacy and relevance of training facilities and equipment on access to vocational training in Makueni County. This was based on a Likert scale 1 - 5. The responses for the managers, instructors and that of the trainees were combined and presented in a single table. Data captured were analyzed and presented in Table 4.31

Table 4.31 Managers' responses on the relevance of training equipment

Statement	Mean	SDev.	SA %	A %	NS %	D %	SD %
There is adequate training Tools and equipment	2.8571	1.06234	4.8	33.3	4.8	57.1	0.0
There is well equipped Workshops	2.6667	1.11056	4.8	28.6	0.0	61.9	4.8
There is well equipped libraries	2.3333	1.06458	4.8	14.3	4.8	61.9	14.3
The training equipment are technologically relevant	2.2381	0.99523	4.8	9.5	4.8	66.7	14.3
the institution provides a variety of equipment choices	2.4286	1.02817	4.8	9.5	4.8	66.7	14.3
Valid N= 21							

Key for the mean

Strongly Agree	1.0 - 1.7	Agree	1.8 - 2.5
Not sure	2.6 - 3.3	Disagree	3.4 - 4.1
Strongly disagree	4.2 - 5.0		

The descriptive statistics results shown in Table 4.31 reveal that managers disagree at 57.1 percent that there is adequate training tools and equipment, 33.3 percent of them agreed, while those who strongly agreed and not sure were both represented at 4.8 percent. The item had a mean rating of 2.8571 and standard deviation of 1.06234. This is an implication that majority of the respondents feel that there is no adequate training tools and equipment. The descriptive statistics results also indicate that respondents disagree at 61.9 percent that there is well equipped workshops, 28.6 percent of them agreed, while those who strongly disagreed and strongly agreed at 4.8 percent. The item had a mean of 2.6667 and a standard deviation of 1.11056. Therefore, based on the descriptive statistics results a conclusion was made that most of the respondents do not agree that there is well equipped workshops.

The descriptive analysis results shown in Table 4.31 indicate that 61.9 percent of the respondents disagree that there is well equipped libraries, 14.3 percent strongly disagreed and agreed respectively. Those who strongly agreed and those who were not sure both represent at 4.8 percent. The item had a mean of 2.3333 and a standard deviation of 1.06458. Therefore, most of the informants indicated that there are no well-equipped libraries. The results indicate that respondents at 66.7 percent of informants disagreed that the training equipment are technologically relevant, 14.3 percent strongly disagreed, 9.5 percent agreed while those who strongly agreed and not sure were both represented at 4.8 percent. The item had a mean of 2.2381 and a standard deviation of 0.99523. This is an indication that majority of the respondents feel that the training equipment are not technologically relevant. The results indicate that informants at 61.9 percent disagreed that the institution provides a variety of equipment choices, 14.3 percent agreed, those who strongly disagreed and not sure were both represented at 9.5 percent while those who strongly agreed at 4.8 percent. The item had a mean rating of 2.4286 and a standard deviation of 1.02817. This was an indication that majority of the respondents feel that the institution does not provides a variety of equipment choices.

Table 4.32 instructors' responses on relevance of training equipment

Statement	Mean	SDev.	SA %	A %	NS %	D %	SD %
There is adequate training Tools and equipment	2.0575	0.93207	3.4	8.0	1.1	65.5	21.8
There is well equipped Workshops	2.2414	0.98790	3.4	13.8	1.1	66.7	14.9
There is well equipped libraries	1.8276	0.61393		1.1	1.1	1.1	72.4	24.1
The training equipment are technologically relevant	2.2299	0.89833	2.3	12.6	2.3	71.3	11.5
the institution provides a variety of equipment choices	2.4023	0.90810	3.4	13.8	6.9	71.3	4.6
Valid N= 87							

Key for the mean

Strongly agree	1.0 - 1.7	agree	1.8 - 2.5
Not sure	2.6 - 3.3	Disagree	3.4 - 4.1
Strongly disagree	4.2 - 5.0		

The descriptive statistics results shown in Table 4.32 reveal that instructors disagree at 65.5 percent that there is adequate training tools and equipment, 21.8 percent of them strongly disagreed, 8.0 percent agreed and strongly agreed at 3.4 percent. The item had a mean rating of 2.0575 and standard deviation of 0.93207. This is an implication that majority of the respondents feel that there is no adequate training tools and equipment

The descriptive statistics results also indicate that respondents disagree at 66.7 percent that there is well equipped workshops, 14.9 percent of them strongly disagreed, while those who agreed at 13.8 percent, strongly agreed at 3.4 percent while 1.1 percent was not sure. Item mean of 2.2414 and a standard deviation of 0.98790. Therefore, descriptive statistics making a conclusion most of the respondents do not agree that there is well equipped workshops. The analysis in table 4.28 indicate 72.4 percent disagree that there is well equipped libraries, 24.1 percent strongly disagreed. Those agreed, strongly agreed and those who were not sure all represent at 1.1 percent. The item mean 1.8276 and a standard deviation of 0.61393. Therefore, most of informants indicated that there are no well-equipped libraries. The results indicate that respondents at 71.3 percent of informants disagreed that the training equipment are technologically relevant, 12.6 percent agreed, 11.5 percent strongly disagreed while those who strongly agreed and not sure were both represented at 2.3 percent. . The item mean 2.2299 and a standard deviation of 0.89833. Majority of respondents feel that training equipment are technologically relevant. The results indicate that informants at 71.3 percent disagreed that the institution provides a variety of equipment choices, 13.8 percent agreed, those who strongly disagreed at 4.6 percent while those who strongly agreed at 3.4 percent. The item had a mean rating of 2.4023 and a standard deviation of 0.90180. It can be concluded that majority had observed that institution provides a variety of equipment choices which limits trainees′ hands on experience as expected in any quality skill development process.

Table 4.33 Trainees' responses on the relevance of training equipment

Statement	Mean	SDev.	SA %	A %	NS %	D %	SD %
There is adequate training Tools and equipment	2.0673	0.94815	1.3	13.1	1.3	59.6	24.7
There is well equipped Workshops	2.1795	1.28302	9.9	10.9	0.3	44.9	34.0
There is well equipped libraries	1.8718	0.64870	1.3	1.9	1.9	72.4	22.4
The training equipment are technologically relevant	2.6410	1.07559	4.2	27.6	2.6	59.6	6.1
the institution provides a variety of equipment choices	2.3942	0.97313	6.7	9.6	5.4	72.8	5.4

Valid N= 312

Key for the mean
Strongly agree 1.0 - 1.7 Agree 1.8 - 2.5
Not sure 2.6 - 3.3Disagree 3.4 - 4.1
Strongly disagree 4.2 - 5.0

The descriptive statistics results shown in Table 4.33 reveal that trainees disagree at 59.6 percent that there is adequate training tools and equipment, 24.7 percent of them strongly disagreed, 13.1 percent agreed while those who strongly agreed who were not sure were represented at 1.3 percent. Item mean rating 2.0673. Standard deviation 0.94815. This is an implication that majority of respondents feel that there is no adequate training tools and equipment. The descriptive statistics results also indicate that respondents disagree at 44.9 percent that there is well equipped workshops, 34.0 percent of them strongly disagreed, while those who agreed at 10.9 percent, strongly agreed at 9.9 percent while 0.3 percent of the informants were not sure. Item mean rating 2.1795. Standard deviation 1.28302. Therefore, descriptive statistics making a conclusion that most of respondents do not agree that there is well equipped workshops.

The descriptive analysis results shown in Table 4.33 indicate that 72.4 percent of trainees disagree there is well equipped libraries, 22.4 percent strongly disagreed. Those who agreed and those who were not sure were both represent at 1.9 percent and whose who strongly agreed at 1.3 percent. Item mean rating 1.8718. Standard deviation 0.64870. Therefore, most of informants indicated that there are no well-equipped libraries. The results indicate that respondents at 59.6 percent of informants disagreed that the training equipment are technologically relevant, 27.6 percent agreed, 6.1 percent strongly disagreed, 4.2 strongly agreed and those who were not sure were represented at 2.6 percent. Item mean rating 2.6410. Standard deviation 1.07559. This was an indication that majority of respondents feel that the training equipment are not technologically relevant. The results indicate that informants at 72.8 percent disagreed that the institution provides a variety of equipment choices, 9.6 percent agreed, strongly agreed at 6.7 percent, strongly disagreed and those who were not sure were represented at 5.4 percent. Item mean rating 2.3942. Standard deviation of 0.9713. This findings indicates that majority of respondents had an opinion that institution don't provide a variety of equipment choices. This compromises the quality of training programmes whose outcome may make TVET non attractive.

Table 4.34 Summary of informants' responses on relevance of training facilities

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Statement	**Trainees overall**			**Managers**			**Instructors**		
	N	Mean	Std. deviation	N	Mean	Std. deviation	N	Mean	Std. deviation	**Mean**
i). The institution has adequate training facilities and equipment	21	2.8571	1.06234	87	2.0575	0.93207	312	2.0673	0.94815	**2.3273**
ii). The institution has well equipped workshops	21	2.6667	1.11056	87	2. 2414	0.98790	312	2.1795	1.28302	**2.3625**
iii).The institution has well equipped libraries	21	2.3333	1.06458	87	1.8276	0.61393	312	1.8718	0.64870	**2.0109**
iv).The training equipment available are technologically relevant	21	2.2381	0.99523	87	2.2299	0.89833	312	2.6410	1.07559	**2.3697**
v).The institution provides a variety of equipment choices	21	2.4286	1.02817	87	2.4023	0.90810	312	2.3942	0.97313	**2.4084**
Valid N (listwise) N = 420	N=21			N=87			N=312			**2.2958**

Key for the mean
Strongly Disagree 1.0 - 1.7 Disagree 1.8 - 2.5

Not sure 2.6 - 3.3Agree 3.4 - 4.1
Strongly Agree 4.2 - 5.0

Table 4.34 shows that most vocational institutions had no adequate training facilities and equipment given by (mean =2.3272). The managers, instructors and the trainees disagreed to the statement that the institutions has adequate training facilities and equipment at (mean=2.3625). The workshops in most cases were not therefore equipped and designed to fit the purpose as given by (mean =2.0109). The researcher who visited the workshops in the sampled vocational institutions to ascertain the status of the workshops confirmed that some workshops had assorted non-operational tools and equipment. He further noted that the basic training facilities and equipment were lacking in most of CVET institution, most of the workshops had poorly kept facilities. In the motor vehicle technology workshops the assorted motor vehicle parts were rated to obsolete. Sewing machines though operational could not offer the best experience. It was reported that, regular major and minor repairs were inevitable to make the work.

The poor state of the workshops which is an essential component in a quality skill development environment, may compromise the quality of skills development. It was also revealed that none of the institutions had a library at (mean =2.3697). Though some of the managers had indicated that their institutions had well equipped libraries at (mean=2.2333). The researcher confirm the same and what this managers referred to as libraries are small book stores. The available training equipment were also rated at (mean=2.3697) to be technologically irrelevant. This implies that the equipment used for training are outdated though they can be used for training they don't match with the ones in the industry. Most of this equipment were used in the garment making trade, carpentry and joinery, motor vehicle technology where there were assorted parts of a vehicle and shells in some institutions. Diagrams on the chalkboard representing vehicle parts was an evidence that more theoretical approach was used to train which denies the trainees an opportunity to have hands-on experience. Further, the study established that the institutions did not provide a variety of training tools and equipment to meet the varied industrial choices. The interviewed managers confirmed that, besides other factors that could influence access to TVET, the VTC's poor infrastructure and equipment has an impact on the quality of training provided. They further stated that the trainees train with substandard equipment which makes it difficult to be absorbed in the job market hence creating a mismatch between the graduates' capacities and the industry requirement. The study findings supported a research carried out by Anindo et al (2016), in Nairobi County which indicated that training facilities and equipment in sampled TVET institutions in the County were inadequate.

These challenges were noted to have an influence on training and skill development to TVET graduates which compromises their employability. Based on this studies unavailability of adequate training facilities and equipment negatively affect the quality of training. This implies that the low enrolment experienced in CVETIs could be attributed to the inadequacy of training facilities which has compromised quality of training. The status of some of the sampled vocational institutions in Makueni County fitted well in the findings of report by MacDonald et al (2010), on "the principles and strategies of a successful TVET program" which indicated that in some countries TVET collages were in a very poor state where tools and equipment were observed to be obsolete and yet were used for training. The institutions were fragmented, poorly developed and in such a state they could not be responsive to employment demands.

Such institutions are considered to be unable to stay relevant and responsive to changing industrial needs, finds it difficult to enhance public perception on the importance and value of TVET and therefore they are not in a position to produce life-long graduates for long life employability who do not require on-the-job training. Education and training requires hands-on experience where the trainees should spent most of their training time in workshops to acquire flexible qualifications, capabilities of working in their areas of specialization and enhance occupational and geographical mobility. The findings of this study paints a totally different training model when compared to Germany's dual vocational training systems. A study by Dieter Euler (2013), indicated that due to dual training principle, Germany's vocational training system offers work-based learning that aims at reducing youth unemployment. The vocational education and training system employs business setting environment to enhance skill development under real life conditions. This enables the trainees to acquire occupational skills that are market oriented. Most developed countries like Belgium, Finland, France, Netherland, Australia and Switzerland have adopted a vocational training model whereby the trainees spent 75 % or more of their training time in practical (work-place training).

Similarly, Denmark, Germany, Norway, Czech Rep, Turkey and Hungary have employed vocational training model where the trainees spent 50% to 75% of their time in in-company training. This vocational training approach where adequate training facilities and equipment which are technologically relevant linked there school-based training to work-place training where school-based vocational training has become more attractive by 75% of all vocational training. The study further indicates that, the outcome of this kind of vocational training has made Netherlands to have low rates of youth unemployment that is 7.6%, Germany 8.6% and Austria 8.3% by the year 2011(Dieter, 2013). TVET in this Countries have attracted considerable interest

which has increased the enrolment in their vocational and training institutions. This implies that adequate training facilities and technologically relevant equipment are essential elements of a vocational training system that enhance access. Estonia in 2014 in a report published by CEDEFOP on "attractiveness of initial vocational education and training" cited improvement of training facilities and equipment as one of the key measures to raise the attractiveness of VET for prospective trainees (Cathleen, Raffe, Georg, Ammerman, & Watters, 2014). The study sought assess the current status of the sampled vocational institutions in the County. The status of vocational institutions training facilities and equipment was physically cross checked by the researcher using observation schedule in appendix VI.

4.5.2 Researchers observation on the status of training facilities and equipment

The rating in the observation was based on the key; poor when the facility or equipment not observed, fair when the facility was observed but not adequately equipped based on the number of trainees enrolled for a particular trade, good when the facility is observed and considered adequately equipped based on the number of trainees taking that particular course and very good when the facility is observed and had more training equipment than the enrolled trainees in that particular course. Observations were categorized and reported in Table 4.35

Table 4.35 Researcher's comments on the vocational institutions' adequacy of training facilities and equipment

Status	frequency	percent
Poor	3	14.3
Fair	12	57.1
Good	2	9.5
Very good	4	19.1

Table 4.35 shows the analyzed observations with higher percentage of the sampled vocational institutions having inadequate training equipment as compared to the number of trainees in a particular training course. It was observed that 12 out of the 21 or 57.1% of the vocational institutions visited had inadequate training equipment. In most cases, some institutions and especially the ones that were established over 30 years ago had very old buildings which did not match the status of training institution.

The infrastructure was found to be dilapidated either due to poor maintenance and repair. In fact when compared to the basic education institutions, the primary schools and secondary schools seemed to be much better hence making them look deserted though still operational. The findings of this study created a totally different image of what TVET facilities should be. In comparison to TVET in Australia where, by 2014 the Australian Government had made significant financial investment in its trade training centres to provide state of art facilities to provide work based learning. This deliberate commitment has increased transitional mobility which in the long run will improve the attractiveness of TVET(Cathleen, Raffe, Georg, Ammerman, & Watters, 2014).

V. Summary Of Research Findings

The second objective of the study was to assess the extent to which adequacy of training facilities and equipment influenced access to CVETIs in Makueni County.It was established that, workshops in most cases were not equipped and designed to fit the purpose and none of the institutions had a library.The available training equipment were also rated to be technologically irrelevant. In average 81.27 % of the respondents rated the training facilities to be inadequate, technologically irrelevant and unfit for training in the era of advanced technology. This implies that the equipment used for training are outdated (obsolete) and not matching with the ones in the industry.

The results from inferential statistics (independent t-test and one way ANOVA) shows that, relevance of training facilities and equipment is significantly related to access in CVETIs. The inadequacy of relevant training facilities was noted to have an influence on training and skill development to vocational training graduates leading to mismatch of skills among the graduates which compromises their employability. The vocational institutions in such state could not be responsive to employment demands. Such institutions are considered to be unable to stay relevant and responsive to changing industrial needs, finds it difficult to enhance public perception on the importance and value of TVET and therefore they are not in a position to produce life-long graduates for long life employability who do not require on-the-job training.

5.3 Conclusion

Based on the findings, this study concluded that institutional factors significantly influenced access to CVETIs in Makueni County. The CVET institutions are poorly equipped and their buildings are dilapidated

except a few, due to poor maintenance and repair. This has made VET have low image as compared to other institutions of higher learning whose general appearance is appealing in terms physical facilities. The inadequacy of training facilities and equipment has denied the trainees hands-on-experience since the trainees do not spent most of their time in workshops. It was noted that the institutions do not provide adequate training materials and the trainees are expected to buy. The cost of the training materials increased the cost of training which could be a barrier to those prospective trainees who could not afford and hence reduces the demand for VET which leads to low enrolment.

Recommendations of the study

The main focus of this study was to improve CVET delivery system and increase the trainees' enrolment. The findings of the study revealed that enrolment in County vocational institutions has remained low in Makueni County. Based on this findings the following recommendations have been made.

1. There is need for modernization and expansion of TVET institutions to address skill gap in the labour markets and meet the future needs for skills development. This arrangement would make TVET gain social acceptance and address the historical misconception which has made VET non-attractive as compared to the general education pathways.
2. Considering the continuous technological advancement, the County Government of Makueni should consider the provision of technologically relevant training equipment to enhance the provision of technologically supported training opportunities for the trainees.
3. The County Government should consider refurbishment and upgrading of the existing old buildings to meet the expected standards of an institution of higher learning since most of the buildings are dilapidated and their appearance is not appealing.
4. TVET remains the first paramount step from being unemployable to employability. This calls for its re-positioning and financing to improve the quality of training programmes and support research.

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