



INFLUENCE OF MANAGERS' PROVISION OF PHYSICAL INFRASTRUCTURE ON TRAINEES' PARTICIPATION IN VOCATIONAL TRAINING CENTRES IN NYAMIRA COUNTY, KENYA

^{1*} **Osoro Francis Angwenyi**
francis.osoro@gmail.com

^{2**} **Ursulla Achieng Okoth**
ursulla.achieng@uonbi.ac.ke

^{3***} **Andrew Rasugu Riechi**
a.riechi@uonbi.ac.ke

^{1, 2, 3} *Department of Educational Management, Policy and Curriculum Studies, The University of Nairobi*

Abstract: *This study examined the influence of managers' provision of physical infrastructure on trainee participation in Vocational Training Centres (VTCs) in Nyamira County, Kenya. Despite efforts by the national and county governments to promote enrolment in vocational training through financial and infrastructural support, participation remains low in the region. The study adopted a descriptive survey research design targeting 3,167 trainees, 408 trainers, and 37 managers. A sample of 568 respondents was drawn using the Krejcie and Morgan sampling formula. Data were collected through questionnaires, observation checklists, and document analysis, and analyzed using descriptive and inferential statistics. Findings revealed a significant positive correlation ($r = 0.773$, $p < 0.01$) between the adequacy of physical infrastructure—such as workshops, classrooms, tools, and residential facilities—and trainee participation. Most VTCs were found to lack critical infrastructure, including furnished classrooms, libraries, laboratories, and dining halls. Regression analysis confirmed that improved infrastructure provision by managers significantly predicted increased enrolment and sustained participation in VTC programs. The study concludes that physical infrastructure is a key determinant of vocational training participation. It recommends enhanced investment in facilities and targeted policy interventions to bridge the infrastructure gap. Managers should collaborate with local stakeholders and county governments to ensure that VTCs are adequately equipped to support hands-on, practical training.*

Keywords: *Physical infrastructure, trainee participation, vocational training, TVET, Nyamira County, education management*

Introduction

Physical infrastructure plays a critical role in enhancing participation in vocational training, particularly in the context of Vocational Training Centres (VTCs). Infrastructure—comprising classrooms, workshops, libraries, laboratories, and residential facilities—forms the physical foundation upon which effective training delivery is anchored. According to Nkundabanyanga et al. (2019), the availability and quality of infrastructure significantly influence both the performance of training programs and the level of trainee participation.

Inadequate infrastructure can hinder access and limit the effectiveness of training. A lack of classrooms and workshops may reduce the number of trainees a centre can accommodate, while insufficient tools and

equipment impair the acquisition of practical skills. These limitations may undermine employability outcomes, reducing the attractiveness of VTC programs. Afolayan et al. (2018) observe that many developing countries, including Kenya, face challenges in providing adequate infrastructure in vocational institutions.

Conversely, access to well-maintained and up-to-date infrastructure has been shown to improve learning experiences, attract more trainees, and align training with labor market demands. Studies from Nigeria and Rwanda (e.g., Okeke, 2014; Rwigema et al., 2021) highlight how equipped workshops and learning resources lead to higher enrolment and improved program effectiveness.

In Kenya, government reports (GoK, 2011; 2012) underscore disparities between public and private vocational institutions, with the former often operating with inadequate facilities. These gaps can influence perceptions and actual participation levels in public VTCs, necessitating research into how managerial practices, particularly infrastructure provision, impact enrolment trends.

A baseline study of Nyamira County revealed that an estimated population of youth aged between 15-29 years was 178,918 in 2017; in the year 2018 the same age bracket had reached 189,016; in the year 2020 total youthful population had reached, 320,141 and this comprised 28% of the total population. This is 54% of the working population, a very active group, and engaged in income generating and vocational activities.

The Youth development index in the County stood at 0.5219 compared to that of 0.5817 nationally. This index is lower than that of the country; therefore, a lot needs to be done to improve the index and ensure that the youth lead better lives in the future. The County has recognized the fundamental role that TVET institutions play in lowering youth joblessness by furnishing them with employable technical skills. However, enrolment to these training and educational institutions remain an issue of concern given that the county had so far enlisted an all-out enlistment of 3,167 trainees in the five sub-counties of Nyamira County, as shown in Table 1.

Table 1: Nyamira County Trainees' Participation in 2021 and Expected Maximum Participation

S/No	Sub-County	Number of VTCs	Trainee Participation 2021	Expected Maximum Participation	% Disparity in Participation
1.	Manga	08	677	3214	78.90
2.	Nyamira North	09	812	3744	78.30
3.	Nyamira South	09	775	3824	79.70
4.	Masaba North	06	567	2434	76..70
5.	Borabu	02	216	784	72.44
Total		34	3,167	14,000	77.21

Source: State Department of Technical and Vocational Education and Training 2021

Comparing the trainee participation rate of Nyamira County against the National figure of 120 907, it is found that it was 1.82 percent of the total, which was dismally low and hence reason for this study to determine the influence of managers' provision of physical infrastructure on trainees' participation in Vocational Training Centres in Nyamira County.

Statement of the Problem

Despite increased policy focus and investment in vocational training in Kenya, participation in Vocational Training Centres (VTCs) in Nyamira County remains significantly low. Out of a total capacity of 14,000, only 3,167 trainees were enrolled in 2021, reflecting a participation rate of 22.6%. This figure accounts for just 1.82% of the national VTC enrolment, highlighting a concerning underutilization of training opportunities in the county.

Both national and county governments, alongside development partners, have implemented interventions aimed at improving enrolment. These include bursaries, capitation grants, HELB loans, the employment of qualified trainers, and infrastructural support. Nevertheless, uptake remains low, raising questions about the underlying institutional factors affecting participation.

Given the strategic role of VTCs in addressing youth unemployment and aligning with Kenya Vision 2030 and Sustainable Development Goals (SDGs 4, 6, and 8), identifying the causes of low participation is urgent. One key area that remains under-examined is the adequacy of physical infrastructure as provided by VTC managers. This study therefore investigates whether, and to what extent, the provision of physical infrastructure influences trainee participation in Nyamira County's public VTCs.

Research Objective

The objective of this study was to determine the influence of managers' provision of physical infrastructure on trainees' participation in Vocational Training Centres in Nyamira County ; Kenya.

Research Hypothesis

The following null hypothesis was tested:

H₀₁: There is no significant relationship between Managers' provision of physical infrastructure and trainees' participation in Vocational Training Centres in Nyamira County.

Theoretical Framework

This study is anchored on the Theory of Production, which explains the transformation of inputs into outputs within an organizational setting. In the context of vocational training, inputs such as infrastructure, instructional materials, and managerial practices contribute to outputs including trainee participation, performance, and skill acquisition.

The production function is typically represented as:

$$Y = \alpha_0 + \alpha_1 X_1 + \beta \dots\dots\dots(1)$$

Where:

- Y is the output (trainee participation),
- X₁ represents the input (physical infrastructure),
- α_0 is the intercept,
- α_1 is the coefficient indicating the influence of the input,

- β is the error term.

By applying this model, the study conceptualizes infrastructure as a production input managed by institutional leaders. The efficiency and adequacy of this input are hypothesized to significantly influence trainee participation—an essential output in the vocational education process.

Research Design

This study employed a cross-sectional descriptive survey design to investigate the influence of managers' provision of physical infrastructure on trainee participation in Vocational Training Centres (VTCs) in Nyamira County. This design was appropriate for collecting data from a large population at a single point in time to examine relationships between variables (Hair et al., 2010; Bryman, 2012). The approach enabled the collection of both quantitative and qualitative data to offer a comprehensive analysis.

Target Population and Sampling

The study targeted a total population of 3,612 individuals comprising: 3,167 trainees, 408 trainers, and 37 VTC managers

from all public vocational training institutions in Nyamira County (Nyamira County Directorate of TVET, 2021).

Using Krejcie and Morgan's (1970) sample size determination formula, a representative sample of 568 respondents was selected, consisting of: 343 trainees, 198 trainers, and 27 managers.

The formula applied was:

$$n = (\chi^2 Npq) / (d^2(N-1) + \chi^2 pq) \dots\dots\dots (2)$$

Where n= desired sample size

N= Target population

p=population proportion of 0.5 q = 1-p for a binomial distribution

d= degree of precision indicated by the amount of error that can be accepted by population size fluctuations and correlates with the level of significance with the corresponding level of confidence of the corresponding error of the proportion of 0.05.

χ^2 = the Chi-square value for one degree of freedom relative to the desired level of confidence

($\chi^2=3.841$ at 95% confidence level).

Sampling Techniques

Simple random sampling was used to select the VTCs and trainees, ensuring equal chances of selection across the population.

Stratified random sampling ensured proportionate representation of trainees, trainers, and managers across the five sub-counties.

Purposive sampling was applied to select managers due to their policy and decision-making roles within the institutions.

Data Collection Instruments

Three main instruments were used:

Structured questionnaires—administered separately to trainees, trainers, and managers.

Observation checklists—to independently assess the availability and condition of physical infrastructure.

Document analysis guides to evaluate the accuracy and updating status of institutional records related to infrastructure and training inputs.

Pilot Testing, Validity, and Reliability

A pilot study was conducted using 10% of the total population across the three categories (trainees, trainers, and managers) to pre-test and refine the research instruments. Feedback from the pilot was used to improve clarity and relevance.

Content validity was ensured through expert review by university supervisors and colleagues in educational management.

Reliability was measured using the test-retest method, with the following correlation coefficients: Managers' questionnaire: 0.73, Trainers' questionnaire: 0.71, Trainees' questionnaire: 0.70.

These values indicate strong instrument reliability, in line with recommendations by Mugenda and Mugenda (2003).

Data Analysis

Quantitative data were coded and analyzed using SPSS version 21.0. Descriptive statistics (frequencies, percentages) and inferential statistics (Pearson correlation and multiple regression) were used to assess the relationships between variables.

Qualitative data from open-ended responses and observations were analyzed thematically, with emphasis on identifying patterns and recurring themes related to infrastructure and participation.

Quantitative Results

The objective of this study was to examine the influence of managers' provision of physical infrastructure on trainees' participation in Vocational Training Centres in Nyamira County. To achieve this, the managers were asked to rate the adequacy of the physical facilities in their institutions. They were required to state whether the resources were adequate or inadequate and their responses were presented as in Table 2.

Table 2: Adequacy of Physical Infrastructure in the VTCs

Physical infrastructure in the VTCs	Adequate		Inadequate		Total	
	F	%	F	%	F	%
Workshops	07	25.9	20	74.1	27	100.0
Classrooms	05	18.5	22	81.5	27	100.0
Tools and equipment	06	22.2	21	77.8	27	100.0
Equipped libraries	03	11.1	24	88.9	27	100.0
Conference halls	02	7.4	25	92.6	27	100.0
Washrooms	23	85.2	04	14.8	27	100.0
Laboratories	04	14.8	23	85.2	27	100.0
Playing grounds	12	44.4	15	55.6	27	100.0
Halls of residence	01	3.7	26	96.3	27	100.0
Trainers' staffrooms	05	18.5	22	81.5	27	100.0
Dining halls	01	3.7	26	96.3	27	100.0
Classroom furniture	02	7.4	25	92.6	27	100.0

Findings in Table 2 shows 25.9% (07) of the managers indicated that they had adequate workshops in their institutions whereas majority 74.1% (20) of them had inadequate workshops. This implies that most of the VTCs in Nyamira County have inadequate workshops for training hence impacting negatively on participation.

Concerning classrooms, 18.5% (05) of the managers indicated that they had adequate classrooms for theoretical work and discussions while majority 81.5% (22) of them had inadequate classrooms. This implies that most of the VTCs in the county do not have adequate classrooms to accommodate trainees leading to low participation. Further, the study found out that 22.2% (06) of the managers of the VTCs indicated that they had adequate tools and equipment whereas the majority 77.8% (21) of them had inadequate tools and equipment for training. This implies that most of the trainees enrolled do not get access to training tools and this is likely to influence participation of the trainees.

Concerning equipped libraries for research, it was found out that 11.1% (03) of the managers of the VTCs in Nyamira County indicated that they had adequate well-equipped libraries whereas majority 88.9% (24) of them did not have equipped libraries. This implies that without equipped libraries, trainees are not able to carry out research in areas of concern. This is likely to influence participation of the trainees as most of the graduates from the VTCs seem to be half baked.

It was revealed from the study that only 7.4% (02) of the VTCs in Nyamira County had adequate conference halls while majority 92.6% (25) of them had inadequate conference halls. This implies that with inadequate conference halls, meetings for a large number of trainees may not be possible. This in effect is likely to influence the participation of the trainees. The study further found out that majority 85.2% (23) of the VTCs in the county had adequate washrooms whereas 14.8% (04) of them had inadequate washrooms. This implies that most VTCs had adequate washrooms which to some extent may influence participation of trainees. This is because health and hygiene of trainees and trainers in an institution should be paramount and hence in line with the health and safety standards (ROK, 2008).

It was further found out that 14.8% (04) of the VTCs in Nyamira County had adequate laboratories for research and experiments whereas majority 85.2% (23) of them had inadequate laboratories. This implies that most of the VTCs in the county do not enable trainees to access laboratories for research and hence few trainees are enrolled in courses that require laboratory work. This therefore influences participation of the trainees in the VTCs in the county. Concerning playing grounds, it was revealed by 44.4% (12) of the managers that the VTCs had adequate playgrounds while 55.6% (15) of them indicated that they had inadequate playgrounds. This implies the numbers of VTCs that have inadequate playgrounds are slightly more than those that have adequate. In nurturing of sports talents, some of the VTCs are likely not to attract more trainees and thus influencing their participation.

It was further found out by 3.7% (01) of the managers indicated that their VTCs had adequate halls of residence whereas majority 96.3% (26) of them did not have adequate halls of residence. This implies that most of the VTCs in Nyamira County have trainees that mostly are day scholars with a few in boarding. This in essence means the trainees who are not in the vicinity of the VTCs may not manage to attend training. With the negative attitudes of the locals concerning VTCs, the participation is likely to be low. Concerning trainers' staffrooms, it was found out that 18.5% (05) of the managers indicated that the VTCs had adequate trainers' staffrooms while majority 81.5% (22) of them had inadequate trainers' staffrooms. This implies that most of the trainers do not have where to prepare their lessons from and attend to trainees adequately. In training institutions, trainers' staffrooms are key as they enhance teamwork and collaboration which are essential in the 21st Century. This is therefore likely to influence participation of trainees in the VTCs since adequate preparation leads to maximum delivery of content.

It was further found out by 3.7% (01) of the managers indicated that their VTCs had adequate dining halls whereas majority 96.3% (26) of them did not have adequate dining halls. This implies that most of the VTCs in Nyamira County do not allow the trainees to take meals in the institution. This means that the trainees have to plan on how to get the meals which in the long run may be expensive. This will in turn discourage trainees that are not from the vicinity of the VTCs. This may negatively influence participation of the trainees in the VTCs in the county. Finally, it was found out that 7.4% (02) of the managers indicated that their VTCs had adequate classroom furniture for the trainees while majority 92.6% (25) of them had inadequate classroom furniture. This implies that most of the VTCs in the county do not have adequate classroom furniture to accommodate trainees leading to low participation.

The managers' rating of the physical infrastructure was checked by the researcher's observation checklist. The findings were as in Table 3.

Table 3: Observation Checklist

Resources	Observation Status of resources in VTCs					
	Adequate		Inadequate		Total	
	F	%	F	%	F	%
1. Classrooms with furniture	10	37.0	17	63	27	100.0
2. Furnished Store	12	44.4	15	55.6	27	100.0
3. tools and equipment	11	40.7	16	59.3	27	100.0
4. Fenced Compound	9	33.3	18	66.7	27	100.0
5. Institution Libraries	8	29.6	19	70.4	27	100.0
6. Toilets for both gender	12	44.4	15	55.6	27	100.0
7. Trainers' Staff Room	10	37.0	17	63.0	27	100.0
8. Workshops	7	25.9	20	74.1	27	100.0
9. Learning Materials	20	74.1	07	25.9	27	100.0
10. Playground	10	37.0	17	63.0	27	100.0
11. Dormitories	6	22.2	21	77.8	27	100.0
12. Administrative Offices	11	40.7	16	59.3	27	100.0
13. Kitchen	10	37.0	17	63.0	27	100.0
14. Dining Hall	05	18.5	22	81.5	27	100.0
15. Classroom	18	66.7	9	33.3	27	100.0
16. Protective gears	16	59.3	11	40.7	27	100.0

From Table 3 it was observed that 37.0%(10) of the VTCs classrooms had adequate furniture while 63.0 %(17) of them had inadequate furniture. Lack of adequate furniture forced students to share the available furniture and thus coursing discomfort to trainees while undertaking theory lessons. Persistent discomfort to trainees while learning in class is likely to impact negatively on participation through increased dropout rates.

It was also observed that 44.4% (12) of the VTCs under study had adequate furnished store whereas 55.6% (15) had no furnished store. Lack of a well-furnished store with well controlled stores ledger can easily lead to disappearance of stores merchandise to unknown persons. Eventually this will lead to inadequacy of teaching and learning material as well as critical tools. This can impact negatively on participation. Observation made on tools and equipment indicate that 40.7% (11) of the VTCs under study had adequate tools and equipment to be used by trainees whereas 59.3%(16) had inadequate tools and equipment to facilitate proper training. In Competency Based Education and Training (CBET) 70% of training sessions takes place in practical work and 60%-70% Of the final assessment is derived from continuous practical sessions. Inadequacy of the crucial tools and equipment to facilitate proper assessment negatively impact on participation.

The analysis from Table 3 shows that 33.3% (9) of the VTCs had adequately fenced compound whereas 66.7% (18) had unfenced compound shared. The unfence or unsecured compounds were either in a secondary school compound, primary school compound or church compound. The unsecured compounds are always prone to vandalism loss of institution equipment tools through several unchecked means. Usually this tools and equipment are hard-earned and replacement is not guaranteed. Shortage of necessary tools and equipment adversely affect participation in VTCs. In addition, trainees operating from borrowed compound have low self-esteem, more especially if it was their former institution of learning before being enlisted in the current one.

It was also observed that 29.6% (8) of the VTCs under study had adequate library whereas 70.4 % (19) did not have formal library. In the absence of a library, books were either kept in the manager's office or they were kept with individual trainers thus prone to misplacement or being taken away without trace when those trainers exit in one way or the other. The library is one of the predictors of student academic achievements (BCTF, 2012). Lack of proper library for critical reference has always a negative impact on participation.

Concerning toilet facility for both genders, it was observed that 44.4% (12) of the VTCs had adequate toilet facilities for both gender whereas 55.6% (12) had inadequate toilet facilities for both genders. Some of the used borrowed facilities for the neighborhood institutions, some used the same toilet facilities with trainers. Lack of adequate toilet facilities for both genders leads to low self-esteem for some trainees and this can trigger high dropout cases and thus impacting negatively on the participation of trainees in VTCs. It was further observed that 37.0% (10) of the VTCs that participated in the study had adequate staff room for trainers whereas 63.0 % (17) had inadequate or lacked staffroom for trainers, Staffroom serves as an important and comfortable place for trainers to operate from. For those who don't have preparation room to operate from, it is necessary that they operate from staffrooms for the safety of their teaching documents and materials. Lack of operational staff rom may lead to inadequate preparation before going to class hence leading to poor content delivery or sketchy delivery which eventually leads to lack of confidence by trainees in trainers and consequently this will impact negatively on trainee participation.

It was also observed that 25.9 % (7) of the VTCs that were studied had adequate workshop while 74.1% (20) had inadequate workshops or had no functional workshop but instead classrooms were also used as workshops. In Competence Based Education and Training (CBET) 70% of training sessions entails practical work whereas 30% entails theoretical work. Lack of properly equipped workshop in a VTC will act as a demotivating factor to trainees in joining that VTC and hence that will lower the participation rates of trainees in that VTC. That aspect was replicated in VTCs with similar challenge and the overall effect was reduction in trainees' participation in Nyamira County.

Further, it was observed that 74.1% (20) of the VTCs had adequate learning materials as compared to 25.0% (7) of the VTC which experienced inadequacy of learning materials. Since learning material are essential component of training in any VTC, it is mandatory that every VTC budget to procure learning material as an essential component of training. Although the majority of the VTCs had sufficient material for training, the few that did not have this essential component acted as a demotivating factor for participation and hence affecting the overall cumulative participation.

Table 3 indicated that 37.0% (10) of the VTC in this study had adequate playing ground while the majority of the VTCs 63.0% (17) had no own playing ground or share playing ground with neighboring learning institution. The shared playing grounds had restriction and those restrictions were no favorable to the trainees. This implies that most of the trainees did not engage in co-curricular activities like soccer, athletics netball, rugby, basketball volleyball among others. According to UNICEF (2000) education and training should develop the cognitive, psychomotor, and affective domains of any student.

Physical education in learning institutions helps develop learners and trainees physically, emotionally and help in development of core skills such as communication, collaboration critical thinking and leadership (UNESCO, 2015c). Inadequate playground denies the learners an opportunity to participate in co-curricular activities which are essential for full development of their personality. Some of the trainee love sports and would always be ready to join institutions with playing ground and there the inadequacy of sufficient playing ground will

always act as a demotivating factor in joining any VTC and that will have an overall effect in the number of trainees' participation in Nyamira County.

Table 3 shows that 22.2 % (6) of the VTCs had adequate dormitories whereas 77.8 % (21) had inadequate dormitories or no dormitory at all. For those students who do not hail from the vicinity of a VTC, a dormitory is necessary for them in order to undertake their training comfortably. Further still for a VTC to increase its catchment area it is very necessary to have a dormitory. Lack of dormitories or inadequate dormitories play as key hindrance to boosting participation in in VTC in Nyamira County.

It was also observed that 40.7% (11) of the VTCs that participated in the research had adequate administrative office whereas slightly above half, 59.3 (16) had inadequate or no proper administrative office. Offices are meant to keep important documents for any institution and always the main administrative office give an impression of what a VTC is. Lack of a proper administrative office gives a bad impression about the whole VTC as an institution and this may act negatively in attracting trainees and in the long run lower participation in the VTC and cumulatively participation all VTCs will be affected.

Observation made on kitchen revealed that 37.0 % (10) of the VTCs had adequate kitchen facility while the majority 63.0% (17) had inadequate or no kitchen facility. In fact it was observed that where there was no kitchen facility the institution prepared lunch for students in the open air. This particularly became a challenge when the weather was either windy or raining. When there is no kitchen facility consequently there is no proper dining hall and this serves as a demotivating factor for trainees enrolling in the facilities and consequently this lowers participation rates.

It was also observed from Table 3 that 18.5% (05) of the VTCs had adequate dining hall while 81.5% (22) had inadequate or no dining hall at all. Dining hall is a crucial facility where trainees take their meals from. Even day scholars require dining hall to take their lunch from there. This implies that trainees took their meals from anywhere in the open. Taking any meal in the open sometimes cause trainees to be inconvenienced by bad weather and this can be a demotivating factor to trainee and this can negatively affect participation in VTCs.

Further observation indicated that 66.7 % (18) of the VTCs had adequate classroom while 33.3 % ((9) had inadequate or no class rooms at all and instead they used workshops as an alternative for classroom. Class room is an important facility for undertaking theoretical lesson before going to the workshop to implement the practical part of it. When students take theoretical lesson from a well-furnished class they are more comfortable than taking lessons from a workbench. Persistent discomfort while taking theoretical lessons can be a major demoralizing factor for enrolling prospective trainees and hence this will automatically lead to lower participation in VTCs in the county.

Finally, observation from Table 3 shows that 59.3 % (16) of the VTCs had adequate workshop protective gears whereas 40.7 % (11) inadequate or no protective gears. Protective gears are very necessary in protecting the trainees from being harmed when using machines and even protecting the normal school uniform from becoming dusty when working on workshop learning projects. Some of the liquids used in the workshop course cause irremovable stains when erroneously come into contact with normal institution uniforms.

In line with the observation checklist, the researcher used the document analysis to obtain information on updated status of the infrastructure in the VTCs as shown in Table 4.

Table 4: Information on Updated Status of the Infrastructure in the VTCs

Document	Updated		Not Updated	
	F	%	F	%
Institutional Inventory	12	44.4	15	55.6
Stores ledger	6	22.2	21	77.8
Workshop record	7	25.9	20	74.1

It was deduced from Table 4 that 44.4% (12) of the VTCs kept a regularly updated institutional inventory whereas 55.6% (15) had an inventory but not updated regularly. An updated inventory will always give current status of tools and equipment that are used for training of trainees. Lack of a clear inventory will always lead to acquisition of unnecessary tools and equipment and thus leaving out essential ones. Lack of essential tools for training acts as a demotivating factor for participation in VTC

Further, information from the document analysis showed that 22.2% (6) of the VTCs had an updated stores ledger while 77.8% (21) did not have an updated stores ledger. Stores ledger are meant to control the inflow and outflow of tools and training materials. Here the accountable documents known as S11 and S13 are used the record the inflow and outflows respectively and this acts as a safety procedure for government properties. Failure to use those will automatically lead to disappearance of purchased tools and training materials to thin air and therefore they cannot be accounted for. Consequently, this will lead to poor training sessions which in turn act an hindrance to spurred participation.

Finally, it was found out from the document analysis that few of the VTCs, 25.9% (7) had updated workshop record while the majority 74.1% (20) did not have updated workshop record or even others lacked these essential records. This record is meant to give the state of tools and equipment in the workshop. They are also used to guide training programmes and also make future training schedules. Lack of properly organized training schedules based on what is in the workshop serves to as a demotivating factor to participation rates

Correlation Statistics for Linear Relationship between Variables

Pearson's correlation measures the strength and direction of the linear relationship between variables. In this study, it measured the strength and direction of managers' provision of physical infrastructure, in relationship with trainees' participation in Vocational Training Centres. The correlations results were presented in Table 5.

Table 5: Correlation Statistics for Linear Relationship between Variables

	Trainees' participation in Vocational Training Centres	Managers' provision of physical infrastructure
Trainees' participation in Vocational Training Centres	1	
Managers' provision of physical infrastructure	.773**	1

** Correlation is significant at the 0.01 level (2-tailed)

From Pearson's Correlations, Table 5 it is shown that that managers' provision of physical infrastructure was also positively and significantly correlated to trainees' participation in Vocational Training Centres ($r = 0.773$, $\alpha < 0.01$). This showed that managers' provision of physical infrastructure had 77.3% significant positive relationship with trainees' participation in Vocational Training Centres.

The study findings provided enough evidence to suggest that there was linear and positive relationship between managers' provision of physical infrastructure, and trainees' participation in Vocational Training Centres. This paved way for multiple regression analysis

Hypothesis Testing

This study postulated one hypothesis that was tested to determine the relationship between managers' provision of physical infrastructure and trainee participation in vocational training centres. The findings were presented in Table 6.

Table 6: Multiple Regression Model

	Unstandardized Coefficients		Standardized coefficients	Sig.
	B	Std. Error	T	
Constant	0.0496	3.4404	0.0086	0.02
Managers' provision of physical infrastructure	0.1153	0.0588	1.4509	0.01
Multiple R	0.875			
R Square	0.7656			
Adjusted R Square	0.7655			
Standard Error	1.032			
Observation	512			
F	5.883			
Sig.	0.0000			

Dependent Variable: Trainee participation in vocational training centres $\alpha = 0.05$

Hypothesis 1(H_{01}) postulated that there is no significant relationship between Managers' provisions of physical infrastructure and trainees' participation in Vocational Training Centres in Nyamira County. Findings showed that managers' provisions of physical infrastructure had coefficients of estimate which was significant basing on $\beta_2 = 0.1153$ ($p\text{-value} = 0.01$ which is more than $\alpha = 0.05$) implying that the null hypothesis should be rejected and concluded that there is significant relationship between Managers' provisions of physical infrastructure and trainees' participation in Vocational Training Centres in Nyamira County. This indicates that increase in managers' provisions of physical infrastructure leads to an increase in trainees' participation in the VTCs. The managers' provisions of physical infrastructure is stated by the t-test value = 1.45092 which indicates that the influence of managers' provisions of physical infrastructure surpasses that of error.

The relationship between managers' provision of physical infrastructure and trainee participation in vocational training centres led to testing of the following regression equation:

$$Y = \beta_0 + \beta_1 X_1 + \alpha$$

Y = The dependent variable (Trainees' participation in vocational training centres)

β_0 = Regression coefficient

β_1 , = slope of the regression equation

X_1 = Managers' provision of physical infrastructure

α is an error term normally distributed about a mean of 0 (for purposes of computation, the α is will be assumed to be 0).

The regression model equation obtained in the study is therefore:

$$Y = 0.0496 + 0.1153X_1 + \alpha$$

An increase of X_1 by one unit could lead to an increase in trainees' participation in VTCs by a factor of 0.1153

Recommendations.

The community in which the VTC is located should in liaison with parents to provide sufficient physical infrastructure such materials, tools, classroom, workshops stores, and many other equipment to enhance the learning experience. This will motivate trainees to engage in the training activities and increase their participation levels.

Managers of the VTCs should adopt strategies that encourage trainees' participation in vocational training programs. This could include creating an interactive learning environment, using practical examples to illustrate theoretical concepts, and providing opportunities for trainees to share their experiences and opinions. Such practices will enhance trainees' confidence levels and boost their motivation to participate in training programs. Foster a supportive learning culture: Managers should cultivate a culture that supports learning and development. This can be achieved by creating an atmosphere where trainees feel valued and respected, providing mentorship and coaching, and recognizing and rewarding trainees' achievements. A supportive learning culture will help to increase trainees' commitment to training programs and promote their participation.

It is important for managers of the VTCs to monitor trainees' progress and provide feedback on their performance. This will help trainees to identify areas for improvement and provide motivation to continue with the training program. Managers should also provide regular assessments and evaluations to track trainee progress and ensure that training programs are meeting the desired objectives. Managers should involve stakeholders such as industry experts, trainers, and employers in vocational training programs. This will provide trainees with opportunities to interact with professionals in their respective fields, learn from their experiences, and gain valuable insights into industry requirements. Involving stakeholders will also enhance the relevance of training programs and increase trainees' participation levels. Managers in collaboration with the Nyamira County government should provide trainees with a supportive learning environment that fosters creativity, collaboration, and innovation. This can be achieved through the provision of adequate resources such as equipment, materials, and space, as well as creating a culture of respect, teamwork, and inclusivity.

References

- Afolayan, T., Odekunle, A. O., & Ogunlade, O. A. (2018). *Problems and Prospects of Vocational and Technical Education in Nigeria*. *European Journal of Education Studies*, 4(2), 118-128.
- Amosa, M. K., & Akinwumi, A. A. (2018). *Provision of infrastructure and equipment for effective teaching and learning of vocational skills in Nigerian technical colleges*. *Journal of Technical Education and Training*, 10(2), 35-47.
- British Columbia Teachers Federation (BCTF). (2012). *Education facts* Retrieved from <http://www.bctf.ca/uploadedfiles/public/publication/2012/edfacts.pdf>
- Danwada, I. A., & Adejumo, I. A. (2021). *Challenges and prospects of vocational education in Nigeria: A review*. *International Journal of Education and Research*, 9(2), 131-142.
- Government of Kenya (2011). *Skills gap analysis for graduates of youth Polytechnics, vocational training centres and out of school youth*. Nairobi. Government Printers.
- Government of Kenya (2012). *National Development Plan 2002-2008: Effective management of sustainable economic growth and poverty reduction*. Nairobi: Government Printer.
- Government of Kenya, (2012). *Sessional Paper No 14, Reforming Education and Training sectors in Kenya*, Nairobi: Government Press.
- Government of Kenya, (2013). *The Technical and Vocational Education and Training Act, 2013*, Nairobi. Government Printers.
- International Labour Organization. (2018). *Kenya: Training of trainers improves quality of vocational training*.
- Kyaruzi, A. J., & Kikwasi, G. J. (2016). *Factors affecting students' enrolment in vocational education and training programs in Tanzania*. *International Journal of Education and Research*, 4(3), 385-396.
- Kyungu and Macharia (2017). *National policy definition in technical and vocational education: Beyond the formal sector, a sub-regional seminar for Eastern and Southern African Countries*. Nairobi.
- Mugenda, O.M. & Mugenda, A.G. (2003). *Research methods: Quantitative and qualitative approaches*. Nairobi: Acts Press.
- Muigai, A. W., & Gatimu, S. M. (2018). *Factors influencing students' enrolment in technical and vocational education and training (TVET) institutions in Kenya*. *Journal of Education and Practice*, 9(15), 13-20.
- Ojiambo, C., Ojiambo, M., & Odoyo, F. (2021). *Assessment of infrastructure and equipment and their effects on technical and vocational education and training in Kenya*. *Journal of Technical Education and Training*, 13(1), 66-78.
- Okeke, C. E. (2014). *Relevance of physical facilities in the effectiveness of vocational education in Nigeria*. *International Journal of Education and Research*, 2(6), 513-522.
- Okeke, I. S., & Ibegbu, A. O. (2019). *Attitude control strategies and vocational training delivery in Nigeria*. *Journal of Technical Education and Training*, 11(1), 1-11.

- Rwigema, H., Uwamariya, J., & Rupali, M. (2021). Assessment of the quality of vocational training programs in Rwanda: A case of vocational training centers in Kigali city. International Journal of Technical and Vocational Education Training, 7(1), 1-14.*
- UNESCO.(2015a). EFA Global Monitoring Report. Education for all 2000-2015: Achievements and Challenges. Paris: UNESCO Publishing*
- UNESCO-UNEVOC. Juma, F., & Aloo, O. (2021). Analysis of factors affecting participation of youth in TVET programs in Kenya. Journal of Technical Education and Training, 13(1), 17-29.*
- UNICEF. (2000). Defining quality in education. A paper presented by UNICEF at the meeting in international working group on education. Florence, Italy: UNICEF*
- World Bank Group (2020). Technical and Vocational Education and Training (TVET) in Sub- Saharan Africa: A Skills Development Review. Washington, DC: World Bank Group.*
- World Bank.(2020). Vocational education and training.*
- World Bank.(2021). Vocational education and training project.*