INFLUENCE OF INSTITUTIONAL FACTORS ON STUDENTS' PARTICIPATION RATES IN PUBLIC TECHNICAL TRAINING INSTITUTES IN TRANS-NZOIA COUNTY, KENYA

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A Research Project submitted for examination in partial fulfilment of the requirements for award of the Degree of Master of Education in Economics of Education

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DECLARATION

The research project is my original work and has not been presented for a degree in any other university

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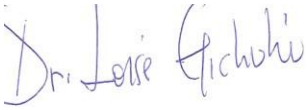
This Research Project is submitted for examination with our approval as University Supervisors



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I dedicate this research project to my father Mr Henry Indiazi Ngidi. He has always encouraged me to aim higher and work hard for the things that I aspire in life**.**

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LIST OF ABBREVIATIONS AND ACRONYMS

AUC	African Union Commission
EFA	Education For All
HELB	Higher Education Loans Board
NACOSTI	National Commission for Science, Technology, and Innovation
OECD	Organization for Economic Co-operation and Development
SDG	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
TPD	Technical Professional Development
TTIs	Technical Training Institutes
TVET	Technical, Vocational, Education and Training
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
VTCs	Vocational ` Training Colleges

ABSTRACT

This study sought to investigate the influence of institutional factors on students' participation rates in public technical training institutes in Trans Nzoia County, Kenya. The specific objectives of the study included: to determine how availability and adequacy of physical facilities influences the students' participation rates in TTIs; to determine how government funding and quality control influences the students' participation rates in TTIs; to establish how adequacy of qualified trainers influences students' participation rates in TTIs; and to investigate how corporate support influences the students' participation rates in TTIs. This study used a descriptive survey research design. Simple random sampling was used to select 181 students and 20 trainers from a population of 1208 students and 68 trainers in Kiminini, Cherangany, and Endebess TTIs. All principals from the 3 TTIs participated in the study. Interviews were conducted with the principals and questionnaires were administered to students and trainees. The Statistical Package for Social Sciences (SPSS) was used for quantitative data analysis. Qualitative data were analysed using content analysis. The study established that institutional factors account for 77.9% variation in students' participation in technical training institutes. Results of the coefficient of determination revealed that institutional factors have a positive and significant effect on students' participation in TTIs. Increasing the availability of physical facilities in TTIs increases students' participation rates in TTIs by 0.555 units (β_1=0.555; p=0.000<0.05). Increasing government funding and quality control to TTIs increases students' participation rates in TTIs by 0.829 units (β_2=0.829; p=0.000<0.05). Increasing adequacy of qualified technical trainers in TTIs increases students' participation rates in TTIs by 0.310 units (β_3=0.310; p=0.000<0.05). Increasing corporate support to TTIs increases students' participation rates in TTIs by 0.687 units (β_4=0.687; p=0.000<0.05). The influence of institutional factors on students' participation rates in TTIs is statistically significant as the p-values are less than the significance level of 0.05. The study found out that TTIs in Trans Nzoia County have had a steady increase in the number of students enrolling in the institutions from 2019-2023. Even though the TTIs have workshops that are equipped with modern equipment and machines that are in excellent condition; classrooms that are well furnished; and ICT facilities, 33.3% do not have laboratories and none of the TTIs have libraries. These facilities are insufficient as the institutions have had an influx of students without a corresponding increase in facilities. This study also found out that the government funds students in TTIs through the provision of a capitation of KSH.30000 for each student, HELB loan, and bursaries. It has also put in place measures to enhance the quality of training in TTIs. However, the disbursement of capitation is sometimes delayed, and a lesser amount is disbursed. Whereas trainers in TTIs in Trans Nzoia County have professional training in their field of specialization, 68.4% are not skilled inpedagogy and the TTIs have a shortage of 15 trainers in various courses. Corporates have not provided any support for technical training. Therefore this study recommends that both national and county governments provide funds for the construction of facilities that are lacking or insufficient and equip the institutions with sufficient equipment and machinery; the government consistently disburses capitation for all students on time; the State Department of Technical and Vocational training facilitates recruitment of trainers in courses that have shortages and ensure all trainers are trained in pedagogy. Corporates should also provide attachment/internships to students, and support TTIs through a donation of equipment and machinery and fund the construction of physical facilities.

CHAPTER ONE

INTRODUCTION

Background to the Study

Education and training play a highly instrumental and necessary role in the economic growth and development of a country's economy by facilitating acquisition of skills and competencies that enhance human resources productivity and efficiency that results in greater economic outputs (World Bank, 2023). Training provided by Technical Training Institutions (TTIs) plays an instrumental role in the economy of a country by filling skills gap in the job market through providing trainees with relevant, practical skills and training that is applicable in the job market. Courses offered by TTIs are tailored to meet the specific needs of the job market as they are designed in collaboration with local employer (Altbach, Reisberg & Rumbley, 2019). Thisensures that students acquire skills that have a high demand in the market which increases employability prospects of youth significantly addressing the problem of unemployment among the youth.

Technical training institution's programs are highly practical in nature with a hand-on approach to training that ensures that students learn by working on real world projects and gaining handson experience rather than the conventional approach used by majority of the tertiary institutions (Ananiadou & Dokubo, 2013). The hands on experience enhance ability of youth to engage in self-employment. It is therefore imperative that sustained and concerted efforts are made by the government, stakeholder and TTIs to attract students to enrol in, undertaking training and eventually graduate from TTIs. There is also need to ensure that TTIs have the necessary facilities and equipment required to equip students with technical skills; and adequate qualified technical trainers with the required competencies to provide quality training.

Globally, technical training has received recognition from international education conventions such as EFA and SDGs. It is intended that through technical training, SDGs 3 and 6 of EFA will be achieved. SDG 3 strives to guarantee that all people, both youngsters and adults, have equal access to pertinent instructional and life aptitude programs, while SDG 6 seeks to better the overall nature of education and guarantee that all students are able to receive measurable learningresults, such as life skills. As a follow-up to achieve EFA, UNESCO International Centre for Technical Training provides assistance to developing countries, countries in transition, and those in post-conflict situations, with specific attention to youth, girls, and women to equip them with the relevant technical skills that can earn their living (UNESCO, 2019).

In efforts to equip youth with relevant skills, the government of Germany has opted to operate dual vocational training, in which technical education and apprenticeship are being run simultaneously (Ullah& Malik, 2020). As noted by Ullah and Malik (2020) study, approximately50% of the school leavers in Germany undergo technical training in line with the hiring companies since it is considered the best way to acquire and equip the staff skills. This has ledthe country to have more than 95% of its employment occupied by youth due to the availabilityof skilled youth workers. In South Korea, TVETs, TTIs, and VTCs have widely been credited foreffectively supporting rapid economic growth in the last 40 years (Triki, 2022). The article reveals that both the South Korean government and corporate institutions have empowered all technical institutions to accommodate and equip more youths with technical skills thus increasing the numbers of skilled manpower among the youth in the country which has led to the rapid economic growth experienced in the country (Triki, 2022).

The government of China has made various reforms to improve the technical training sector such as policies to strengthen the training of urgently required workforce with special skills in certain areas as well as increasing the recruitment of the youth in the deficit workforce skills in their technical training institutions. This has been achieved through China's legal framework of the Modern Vocational Education System Construction Plan (2014-2020). To implement the national outline for 2020, the Chinese government issued plans to build a world-class technical institutions system that is modernized to be more relevant, connective, and multi-dimensional. This has led to the production of quality technically trained professionals who are competitive both locally and internationally hence increasing China's productivity (Peoples' Republic of China, 2018).

The African Union Commission (AUC) has developed a continental technical training strategy that aims at addressing policy issues, gaps, and challenges limiting the number of technically skilled workers in Africa (Africa Union Commission, 2020). The African continent vision 2063 aims at increasing the number of technically skilled workers by empowering technical institutions so that they can accommodate more youth and equip them with the relevant skills Ogutu (2017) highlights that in order to convert African economies into ones that are globally competitive with plentiful chances for appropriate employment for the younger generation, most of the African countries have diverted their attention on strengthening technical institutions so that they can be able to absorb the majority of the lower and average students who did not get an opportunity to join institutions of higher learning.

According to the study by Dasmani (2011) in Ghana, the challenges facing technical institutions are a lack of adequate supply of instructional materials; small class sizes, inadequate training facilities, and tutors as well as weak linkage with local industries for a hands-on experience

which lowers student participation rate due to ineffective and inefficient training of students. However, both the government and external corporate donors are making efforts to boost the institutions so that they increase the number of students who are enrolled in technical training institutions. The study by Baliyan (2016) in Botswana noted that the choice of the student to participate in technical training institutions is highly influenced by the notion built by the employers towards the graduate from the technical training institutions. Further, the study established that the effort put in by the government and private companies to create more employment for the technical training institutions' graduates increases the student participation rate in those institutions. In the study by Ayub (2017), it was established that there is an increase in parents' perception towards enrolling their children in technical training institutions and as a result, an increase in demand for technical training skills in both government and private sectors. According to the 2022 Kenya Economic Survey, enrolment in TVET institutions increased by 10.4%; from 451.2 thousand in 2020 to 498.3 thousand in 2021. There was an increase in enrolment of students in public and private TTIs by 16% to 150927 and 3.4% to 87157 respectively as demonstrated in Table 1.1 below. However, the increase in enrolment has not been matched by an increase in the quality of training offered in the institutions. According to Sessional Paper Number 1 of 2019, the TVET sector continues to grapple with numerous impediments such as a lack of trainers with appropriate capacity, an insufficiency of TVET institutions; and teaching and learning aids. This may compromise the quality of training and result in TVET graduates who lack the technical skills, practical skills and competencies required in the job market contrary to the purpose of TTIs. This may also reduce the employment prospects of the TTIs graduates due to a lack of skills and competencies required in the job market.

Table 1.1 shows trainees' enrolment in TVET institutions in Kenya by sex between 2017 and 2021:

Table 1.1 Trainees' Enrolment in TVETs in Kenya by sex: 2017-2021

	2017	2018	2019	2020	2021
Male	29584	49454	65347	76416	88642
Female	17982	39948	46763	53648	62285
Total	47566	89402	112110	130064	150927

Source: Economic Survey (2022)

The results in Table 1.1 show that the enrolment of trainees in TVETs (Technical and Vocational Education and Training) in Kenya has been steadily increasing over the past five years. Between 2017 and 2021, the total number of trainees enrolled in TVETs has nearly tripled, from 47,566 to 150,927. The number of male trainees has increased from 29,584 to 88,642 over the same period, while the number of female trainees has increased from 17,982 to 62,285. This data indicates that there has been an increase in the number of both male and female trainees in Kenya's TVETs. However, the rate of increase for male trainees has been higher than for female trainees. In 2017, there were approximately 1.6 male trainees for every 1 female trainee, while in 2021, there were approximately 1.4 male trainees for every 1 female trainee. This suggests that there is a need for greater efforts to encourage and support female enrolment in TVETs in Kenya (Republic of Kenya, 2019).

Despite the increased enrolment in TTIs, the quality of training remains low in the institutions. According to *Sessional Paper Number 1 of 2019,* TVET aims to equip individuals with lifelong skills that meet the prerequisites of the labour market, industry, and independent enterprise.

Unfortunately, the TVET sector continues to grapple with numerous impediments such as a lack of trainers with appropriate capacity, an insufficiency of TVET institutions; teaching and learning aids, as well as a shortage of TVET graduates with the required competencies. Thepaper outlines some of the strategies being used by the government to improve the TVET sector. The strategies include expanding TVET facilities targeting national priority sectors; rebranding and repositioning TVET and strengthening parental empowerment and engagement.

The TVET Act No. 29 of 2013 established the TVET Authority (TVETA), the TVET fund, and the TVET curriculum assessment and certification board to enhance the effectiveness and management of TVETs in the country. According to *The National TVET Standards Kenya Report of 2020,* the main purpose of TVETA is to regulate and control all training; accreditation, registration, and issuing of licenses to TVET institutions and trainers; promote quality; ensure easy access and relevance of training programs and courses offered in the TVETs.

In Makueni County, the support given to technical institutions by the county and national government has enhanced the increment in the student participation rate in the institutions(Wausi, 2018). According to the study by Anindo (2016), one of the factors that encourage students to participate in technical training institutions' education is the need to acquire relevant employable skills. The study found out that in Nairobi County, some of the technical training institutions are more preferred by the students than others due to the value they add to them inthe job market. This is a result of having several highly trained and exposed tutors who can link them to external donors/potential employers as well as other physical facilities that can help them garner the required skills (Anindo, 2016).

The County Director of TVET Trans Nzoia County revealed that as of September 30^{th,} 2021, among the 32 TVETs in the county, 28 were working, representing 87.5% of the TVETs. In

addition, the 6.3% (2) TVETs which were not yet working were new and arrangements were still being put in place before they start operating. However, there are only 3 TTIs in the county which are; Kiminini, Endebes, and Cherang'anyi. According to the report, the tutors in these institutions are funded by the government and managed by the Public Service Commission. This is as per the Fourth Schedule in the *Constitution of Kenya, 2010* regarding the national government funds for infrastructural development. The report further indicated that Endebes TTI had 32 tutors, Cherang'anyi TTI had 10 tutors and Kiminini TTI had 26 tutors. In terms of enrolment, Endebes had 827 students, Cherang'anyi had 31 students and Kiminini had 350 students.

The research gap lay in determining the influence of institutional factors that are specific to Trans-Nzoia County in Kenya on students' participation rates in the public technical training institutes. Previous studies focused on the same issue in different parts of the world, but have notadequately addressed the issue, especially in TTIs in Trans-Nzoia County. Similarly, the studies discussed in the study have combined different institutional factors other than the ones used in this study. Therefore, this research sought to fill this knowledge gap by studying the specific institutional factors in Trans-Nzoia County that are associated with student participation rates such as physical facilities, government funding and quality control , number of tutors, and corporate support.

Statement of the Problem

Training provided by Technical Training Institutions (TTIs) addresses the skills gap in the job market by equipping students with skills and competencies that are tailored to meet the specific needs of the job market (Altbach, Reisberg, & Rumbley, 2019). The practical nature and hands-on approach to training in TTIs ensure students acquire skills applicable to the real world and

gain hands-on experience (Ananiadou & Dokubo, 2013). The hands-on experience increases the employability prospects of youth significantly and enhances the ability of youth to engage in self-employment addressing the chronic problem of unemployment among the youth. Additionally a significant proportion of Kenyan youth who fail to meet entry grades for government-sponsored diploma and degree programs rely on TTIs to acquire skills that will enhance their future employability prospects (Wausi, 2018). Hence, it is imperative to ensure that TTIs have the necessary facilities and equipment; have adequate qualified technical trainers; received adequate funding from the government; and are regulated to provide quality training to students.

However, the Economic Survey (2022) indicates that there has been an increase in enrolment of students in public TTIs in Kenya by 16% between 2017 and 2021 without a complimentary increase in the quality of training. According to the survey, the TVET sector continues to grapple with lack of trainers with appropriate capacity to provide quality training; insufficiency of TVET institutions; and inadequate teaching and learning resources (KNBS, 2022). This may compromise the quality of training and acquisition of technical skills as observed by Macharia, Chui, and Edabu, (2020) who established that there is a shortage of technical skills among the majority of the youth. Hence, there is need to establish if TTIs in Trans Nzoia have the necessaryfacilities and equipment; adequate qualified technical trainers and funding to provide quality training.

Studies by Wausi (2018); Anindo (2016); Ngware*et al.,* (2022); Mkala (2018); and Macharia *et al.,* (2020) have established that availability of adequate physical facilities; adequate number of qualified technical trainers and government funding enhance enrolment and participation of students in TTIs. However, no studies have been carried out to examine availability and

adequacy of institutional factors such as physical facilities, equipment, and qualified technical trainers in TTIs in Trans Nzoia County. None of these studies examined if quality of training in TTIs is regulated by the government. In light of this, there is need to fill this knowledge gap by determining availability and adequacy of institutional factors among TTIs in Trans and how these factors have influenced participation of students in TTIs. Hence, this study investigated institutional factors that influence student participation rate in public technical training institutions in Trans Nzoia County, Kenya.

Purpose of the Study

The purpose of this study was to investigate the influence of institutional factors on students' participation rates in public technical training institutions in Trans Nzoia County, Kenya.

Objectives of the Study

The study was guided by the following objectives:

i. To determine how availability and adequacy of physical facilities influences the students' participation rates in TTIs.
ii. To determine how government funding and quality control influences the students' participation rates in TTIs.
iii. To establish how adequacy of qualified tutors influences the students' participation rates in TTIs.
iv. To investigate how corporate support influences the students' participation rates in TTIs.

Research Questions

i. To what extent does availability and adequacy of physical facilities influence students' participation rates in TTIs?

ii. To what extent does government funding and quality control influence students' participation rates in TTIs?

iii. To what extent does the adequacy of qualified tutors influence the students' participation rates in TTIs?

iv. To what extent does corporate support influence the students' participation rates in TTIs?

Significance of the Study

The findings of this study may assist the government in obtaining sufficient evidence on the relationship between institutional factors that influence the student participation rate in public technical training institutions in Trans Nzoia County, which may be instrumental in informing policy formulation and budgetary decisions for TTIs. This study was intended to provide insight into prospective routes for increasing or standardizing TTIs budgets. The analysis may assist institutions' management in determining which sectors require additional financing in order to improve trainee participation in TTIs. The study may provide policymakers with the crucial information that influences students' participation rates in technical training institutes, allowing for more effective planning on trainee enrolment, retention, and completion. TTI students may also benefit from measures and policies that may be undertaken to promote participation using the insights of the study to enhance smooth completion of their technical education. This may enhance the acquisition of technical skills thus promoting the realization of Sustainable Development Goals, Millennium Development Goals, Education for All, Kenya's national goals of education, and Vision 2030.

Limitation of the Study

The study also experienced obstacles in provision of accurate information from some of the respondents who believed that the study aimed at increasing funding for infrastructure

development particularly physical facilities in the TTIs. Thus the respondents may have provided information that does not provide an accurate picture on the availability of physical facilities in the TTIs. To counter this, the researcher, used an observation guide to counter check information provided by respondents by physically examining availability of the facilities in the TTIs.

Some of the tutors were also apprehensive on providing information on their professional background training in the respective fields that they were teaching out of fear that this information would be used by the TVET Authority for appraisal. To counteract this fear, the researcher clarified that the research was purely academic and did not seek to appraise the tutors.

Delimitation of the study

To provide the necessary data, this study was conducted in public TTIs offering technical courses, Institutions offering vocational training were excluded from the study. The researcher's target audience included students, tutors, and managers or principals of TTIs in Trans Nzoia County. This is because they had important information on institutional factors that influence student participation rate in public technical training institutions in Trans Nzoia County. To assess student participation, the indicators of focus were access, retention, and completion. The study did not examine transition rates from secondary school as this would have extended the study beyond the targeted group.

Basic assumptions of the study

It was presumed that the respondent's information was based on information about the institutional factors that influence the student participation rate in public technical traininginstitutions in Trans Nzoia County as opposed to other institutions in which they may have previously or currently been enrolled. The respondent, according to the researcher, answered all

of the questions accurately by offering honest and factual information. Because the study was mostly intellectual in nature, the respondents were free to submit correct information.

Definition of Significant Terms:

Corporate support refers to the assistance provided by commercial enterprises to TTIs in Trans Nzoia in terms of funding construction of facilities such as workshops, libraries and laboratories; scholarship for students; donation of equipment and tools; and providing opportunities for attachment and apprenticeship.

Government funding and quality control refers to financial support provided by the national and county governments to TTIs in Trans Nzoia County through capitation of KSH. 30 000 per student; student loans; bursaries; and funding construction of physical facilities. It also includes establishment of the TVET Authority to control quality of training through accreditation, registration, and issuing of licenses to TVET institutions and trainers.

Adequacy of qualified tutors refers to the sufficiency of trainers in TTIs in Trans Nzoia County with the required professional training in their various fields of specialization in accordance with regulations of the State Department of Vocational and Technical Training which requires technical trainers to have a diploma, a Higher National Diploma (HND) or a degree in their respective field of specialization.

Students' participation rates refer to the enrolment and completion of training of students in TTIS in Trans Nzoia County determined by students' enrolment rates, retention rates, drop-out rates, and completion rates.

Physical facilities refer to the amenities required by TTIs to provide quality training and equip students with technical skills. These include classrooms for purposes of equipping learners with theoretical knowledge in their respective fields; workshops and laboratories that are equipped

with the right equipment, tools, and machines for purposes of undertaking practical lessons and conducting experiments; and libraries that provide reading materials and course textbooks that enhance learners' knowledge and skills in their field of specialization.

Organization of the Study

This research project is structured into five sections. Chapter one includes the background of the examination, the statement that prompts the study, the objectives of the study, research questions, the relevance of the study, constraints, and delimitations, assumptions of the research, and the definition of essential terms. Chapter two is composed of a literature review which contains an introduction, empirical literature review, summary of the literature review, theoretical review, and conceptual framework. Chapter three portrays the research methodology which comprises research design, target population, sample size and sampling methods, data collection tools, piloting of the tools, validity, and reliability of the tools, data analysis approaches, and ethical considerations. Chapter four consists of data presentation, analysis,interpretation, and discussion of the results while chapter five entails a summary of the findings, conclusion recommendations and suggestions for further reading.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter explores the literature on institutional determinants that influence student engagement in public technical training institutions in Trans Nzoia County, Kenya. The literatureis based on research linked to each variable, and a summary of the studied literature as well as the theoretical framework that drives the study and the conceptual framework that establishes therelationship between the explanatory variables and the response variable.

Physical Facilities and Participation Rate in TTIs

Physical facilities refer to the amenities required by TTIs to provide quality training and equip students with technical skills (Ongulu & Ibrahim, 2021). These include classrooms for purposes of equipping learners with theoretical knowledge in their respective fields; workshops and laboratories that are equipped with the right equipment, tools, and machines for purposes of undertaking practical lessons and conducting experiments; and libraries that provide reading materials and course textbooks that enhance learners' knowledge and skills in their field of specialization. Ngugi and Muthima (2017) observes that students prefer to enrol in TTIs thathave adequate training equipment. Oloo (2018) on the other hand observes that TTIs that have adequate physical facilities tend to attract and enrol more students; enhance retention, completion and eventual graduation from these institutions

A study by Chijioke (2018) on Gender Mainstreaming in TVET in Rivers State, Nigeria revealed that most TVET institutions had old and out-dated machines whose use does not reflect the needs of the current labour market. The availability of physical facilities has a positive relationship with participation in TVETs and this is because it is essential for the smooth running of TVET

programmes. Good physical facilities can help to attract more students and also help to improve retention and graduation rates (Oloo, 2018).

Researchers have expressed curiosity in ascertaining the liaison between the accessibility of educational materials and assorted involvement elements in TVET. A study by Ongulu &Ibrahim (2021) on the impact of the adequacy of the instructing and learning resources on students' enrolment in technical, vocational education and training institutions in Butula Sub- County in Busia; revealed that there was a powerful advantageous correlation between adequacy of the teaching and learning resources and students' enrolment. This was demonstrated by a correlation coefficient of 0.864. In a study on the Impact of Appropriate Instructional Resources and Physical Facilities on the Quality of Teacher Preparation in Developing Private Primary TTCs in Bungoma County, Makori (2018) stated that disparities in school facilities would appear to explain differences in achievement. Several studies have found a link between the quality of instruction in TVETs and physical facilities. In his study on Institutional factors that wereinfluencing quality training in technical, vocational, and entrepreneurship training in the Siaya sub-county, Yewah (2015) noted that the use of modern equipment in technical institutes is essential to make trainee training relevant and improve quality. According to the TVET strategy plan (2019), the use of modern technology is important.

A study by Ngugi and Muthima (2017) on female participation in TVETs in Kenya found that the availability of training equipment influences the acquisition of skills by students. Additionally, other factors such as the inadequacy of trained teaching staff and limited support from industries greatly influenced the production of graduates with employable skills. A study byWausi (2018) on Institutional Factors Influencing Trainees' Participation Rates in Public TVETs In Makueni County found that; TVET institutions lack modern facilities, but students opt to

enroll in courses in which there are some facilities irrespective of their condition. Most of the above studies have linked physical facilities and the quality of TVET education. However, none of the studies covers physical facilities and participation rates in Trans-Nzoia County. This study will therefore determine the influence of physical facilities on the students' participation rates in TTIs in Trans Nzoia County.

Government Funding and Quality Control and Student Participation Rate in TTIs

Government funding refers to financial support provided by the government to TTIs and quality control is how the government regulates the quality of training through accreditation, registration, and issuing of licenses to TVET institutions and trainers. According to Tusiime*et al.,* (2020) government funding and quality control is instrumental in ensuring that TTIs have the required facilities and are equipped with modern facilities and equipment which attract students to enrol in TTIs. According to Ngware*et al.,* (2022) government funding programs enhance enrolment of students in TTIs. Quality control by the government through the TVET authority ensures that only technical trainers that meet the required qualifications are registered and licenced by the Authority and allowed to train students in TTIs.

Studies by Léonard and Dieu, (2021); Boushey (2019); and Watson (2019) have examined the role of financial aid in promoting access to postsecondary education. For example, one study found that financial aid given to institutions by the government plays a significant role in increasing college enrolment among low-income students (Léonard & Dieu, 2021). Another study found that need-based financial aid programs by the US government are effective in increasing college enrolment and persistence among low-income and minority students (Boushey, 2019). The study by Watson (2019) noted that there is a growing consensus among policy experts that the current federal financing system for higher education is unsustainable and

in need of reform. This is due to its complexity with a variety of programs and tax incentives that provide mixed signals to students and families. In addition, the system is inefficient, with a large amount of money being spent on need-based grants that do not target the students who are most in need of financial assistance. Therefore, the reforms targeted increasing financial assistance to needy students thus increasing their enrolment in the school programs.

Arigye (2017) established that the quality of education is one of the major concerns in recent years. The findings of this study suggest that government funding and quality control for teacher training institutions plays a significant role in enhancing the quality of education. Hence, the roleof these institutions in enhancing the quality of education is very important to enrolment. The study by Tusiime, Johannesen, & Gudmundsdottir (2020) found that the digital age has revolutionized the field of art and design education. Therefore, teaching art and design in adigital age requires the government to rethink the way educators need to approach the subject matter. With the advent of new technologies, the government must find ways to integrate digital tools into teaching so that there will be more students trained in digital art and design in TTIs.

The Kenyan government's support in terms of education, equality, and human rights has been evident in recent years. The government has put in place various policies and programs to improve access to education, reduce inequality and promote human rights (Cole, 2022). According to the study by Ngware *et al.*, (2022) that assessed the government funding and quality control on students' participation in technical training institutions in Kisumu County, Kenya; it was revealed that the nature of government funding and quality control for students' participation in technical training institutions was good. The challenges that were identified included a lack of awareness of the available support, lengthy and bureaucratic procedures in accessing the support, and inadequate financial support. The study recommends that the

government should create awareness of the available support, reduce the bureaucratic procedures in accessing the support and increase the financial support. Of the studies reviewed in this section, none of them have addressed the influence of government funding and quality control onTTIs in Trans-Nzoia County which is the gap this study sought to fill.

Adequacy of Qualified Tutors and Student Participation Rate in TTIs

Adequacy of Qualified Tutors is the sufficiency of trainers in TTIs in Trans Nzoia County with the required professional training in their various field of specialization. Macharia *et al.,* (2020) observe that adequate trainers with professional background training determine quality of training in TTIs. According to Habler *et al.,* (2021), trainers with a professional training background in their fields of specialization report higher rates of the student participation rate in their classes as they are perceived to provide quality instructions.

Tondeur *et al.,* (2019) examine the influence of the number of tutors and student participation rate in TTIs in America. The study was conducted in two phases. In the first phase, a survey was administered to a sample of students who had participated in TTIs. In the second phase, focus groups were conducted with the purpose of gaining an in-depth understanding of the students'perceptions of the impact of the number of tutors and student participation rate on TTIs. The findings of the study showed that the number of tutors had a significant influence on the students' perceptions of the quality of TTIs. According to the study by Veeraraghavan (2022) India, It is estimated that every year, nearly 1.5 million students drop out of school in India. The reasons for this are varied but often include financial difficulties, lack of parental support, and poor academic performance. However, one of the most significant factors in school dropout ratesis the number of tutors available to help students. In India, the average number of tutors per student is just 1:30, compared to the global average of 1:15. This means that Indian students are

not receiving the necessary support to succeed in school. As a result, many are forced to drop out.

There is a growing body of evidence that suggests that the number of teachers who receive professional development and the student participation rate in Teacher Training Institutes (TTIs) in sub-Saharan Africa is positively correlated. A study conducted by Habler, Bennett, andDamani (2021) found that teachers who had received professional development were more likelyto report higher rates of the student participation rate in their classes. Similarly, a study from Uganda found that TVET instructors who had participated in TPD were more likely to report higher levels of student satisfaction and participation in their courses (Klees, Jawoko, & Muwanga, 2017).

There is a lack of empirical evidence on the effectiveness of Technical Training Institutes (TTIs) in Kenya. Previous studies that have been conducted are based on small-scale, qualitative data. A few studies have looked at the impact of the adequacy of tutors and student participation rate on TTI outcomes, but the findings are inconclusive. One study found that a higher number of tutors per class were associated with better student performance on measures of teacher knowledge and teaching practice (Mkala, 2018). However, another study found that a higher number of tutors per class were not associated with better student performance on measures of teacher knowledge.The student participation rate has also been found to be associated with TTI outcomes, but the direction of the relationship is not clear (Macharia, Chui, &Edabu, 2020). Some studies have found that higher student participation rates are associated with better outcomes, while other studies have found that higher student participation rates are associated with worse outcomes. Onoverall, the evidence on the influence of the number of tutors and student participation rate on

TTIs outcomes in Kenya is inconclusive. Therefore, this research examines the influence of the number of tutors and student participation rate on TTIs in Trans-Nzoia County, Kenya.

Corporate Support and Student Participation Rate in TTIs

Corporate support can play a significant role in improving the quality of the educational system and, as a result, increasing student participation rates in TTIs (Zhang & Cheng, 2019). They can be used to improve facilities, hire better teachers, and provide more resources for students. By investing in the quality of the educational system, corporations can help ensure that morestudents complete their training and are able to participate in TTIs (Zhang & Cheng, 2019). According to the study by Zulfiqar *et al.,* (2019), the involvement of private companies in business simulation training in technical training institutions increases student intention and attitude toward entrepreneurial activities. The findings indicated that the business simulation game could be an effective tool to stimulate students' entrepreneurial activities which also increases student participation in TTIs.

According to the study by Shaikh (2019), the Kyrgyz Republic has a long history of partnership with international organizations in the education sector. These collaborations have greatly aided the Kyrgyz Republic's efforts to increase educational access and improve educational quality. Among the international organizations with which the Kyrgyz Republic has collaborated are the World Bank, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the United Nations Development Programme (UNDP), and the Organization for Economic Cooperation and Development (OECD).

A study by Morley (2019) found out that Corporate Support was significantly associated with increased Student Participation Rates in TTIs in Africa. The authors suggest that this may be due to the fact that Corporate Support provides financial resources that can be used to improve the

quality of TTIs, which in turn attracts more students. Another study by Bussell (2020) also found a positive relationship between Corporate Support and Student Participation Rates in TTIs in Africa. The author suggests that this may be due to the fact that Corporate Support can help to improve the quality of TTIs, which leads to more students wanting to attend them.

In recent years, there has been a growing interest in the role of Technical Training Institutes (TTIs) in Kenya. This is due to the recognition of the importance of TTIs in providing skilled manpower for the country's industrial and economic development (Mbore, Sang, & Komen, 2019). There are a number of factors that have been identified as influencing the performance of TTIs in Kenya. These include the level of corporate support and the student participation rate. Corporate support refers to the financial and other forms of support that businesses and industriesprovide to TTIs. This support is important in ensuring that TTIs have the resources and facilities needed to provide quality training. A high student participation rate is indicative of high demand for TTI courses (Ndile, 2018). The studies on the influence of corporate support and student participation rate on TTIs in Kenya is limited especially in Trans-Nzoia County where this study is focused.

Summary of Literature Review

The chapter has highlighted the literature review in order to understand institutional factors that influence the students' participation rates in public technical training institutions in Trans Nzoia County. This chapter has also reviewed Human Capital Theory supported by the Education Production Function in order to understand the study variables better. The conceptual framework has been used to show the relationship between institutional factors (physical facilities, adequacy of qualified tutors, government funding and quality control, and corporate support) influencing the students' participation rates in public technical training institutions in Trans Nzoia County.

Though studies reviewed in this section have majored on the same topic with the same variables and methodology there is none that has been done recently and especially in Trans Nzoia County, Kenya to address the issue at hand.

Theoretical framework

The study employed the Human Capital Theory. The theory, which traces its roots to American economists Gary Becker (1962) and Theodore Schultz is based on the tenet that formal education plays a highly instrumental and necessary role in enhancing the productive capacity of the human population. Education and training is seen as a worthwhile investment in human capital whose returns is the enhanced productivity and efficiency of human population. This investment in education in turn results to greater economic outputs due to the enhanced efficiency and productivity of human capital.

According to human capital theory, individuals make investments in themselves in order to increase their productivity and earnings potential (Haini, 2019). Education and training plays a significant role in the economic growth of the society by producing human resources that are equipped with the competencies and enhanced capacity to be productive and efficient; which results in greater economic outputs. The education production function states that the production of effective and productive human capital is dependent on the quality and quantity of the investments.

According to the theory, the education production function states that the output of the educational system (acquisition of skills and competencies that enhance human resources productivity and efficiency) is a function of inputs invested in the education system. Investment in quality education and training ensures that the education produces highly productive human resources with the capacity to perform their duties more effectively. Students who enrol in

institutions that provide higher-quality education and training are more likely to complete their training and obtain the skills and credentials necessary to be successful in the workforce. On the contrary students who attend lower-quality institutions are more likely to drop out or fail to complete their training reducing their prospects in the job market.

Technical and Vocational Training Institutions play a highly instrumental role in the economy by addressing skills gaps in the job market. These institutions provide training which equips students with technical and practical skills that are arguably absent among majority of university graduates. To produce human resources that have the technical competencies required in the economy it is imperative that TTIs provide quality training by ensuring that they invest in all the essential facilities, equipment and tools required to equip students with technical and practical skills. These include classrooms; workshops and laboratories that are equipped with the right equipment, tools, and machines; and libraries. Makori (2018) and Yewah (2015) argue that adequacy of physical facilities and use of modern equipment in technical institutes determines the quality of instructions and subsequently quality of graduates from the institutions. Availability of these facilities enables TTIs to equip students with practical and technical skills applicable in the job market. As a result, Oloo (2018) observes that TTIs that have adequate physical facilities tend to attract and enrol more students; enhance retention, completion and eventual graduation from these institutions.

Government funding plays an instrumental role in ensuring availability of these facilities in TTIs. According to Tusiime *et al.,* (2020) government funding and quality control is instrumental in ensuring that TTIs have the required facilities and are equipped with modern facilities and equipment which attracts students to enrol in TTIs. Government funding also enhances participation of students in TTIs through provision fee subsidy, students' loans and capitation.

According to Ngware *et al.,* (2022) such programs put in place by the government enhance enrolment of students in TTIs.

TTIs also need to ensure that their technical trainers meet the required professional qualifications required to provide quality training. Macharia *et al.,* (2020) observe that adequate trainers with professional background training determine quality of training in TTIs. According to Habler *et al.,* (2021), trainers with a professional training background in their fields of specialization report higher rates of the student participation rate in their classes as they are perceived to provide quality instructions to students. Quality control by the government through the TVET authority ensures that only technical trainers that meet the required qualifications are registered andlicenced by the Authority and allowed to train students in TTIs.

Support provided by corporates on the other hand is instrumental in enhancing quality of training and enhancing students' participation in TTIs. According to Morley (2019) and Bussell (2020) corporate support in form of funding and donations ensures that TTIs have the resources and facilities needed to provide quality training which in turn attracts students who enrol and undertake training in TTIs.

Influence of Institutional Factors on Students Participation in TTIs

A multiple linear regression model was used to determine the association between institutional factors and students' participation rates. The regression model was constructed as follows:

$Y= \alpha + ß_1X_1+ ß_2X_2 + ß_3X_3+ ß_4X_4 + Ɛ$

Y- Students' participation rate in Technical Training Institutions

α – the constant or y-intercept

$ß_1$– $ß_4$ –regression coefficients

X_1 – Physical facilities

X_2 – Government funding and quality control

X_3– Adequacy of Qualified Trainers

X_4– Corporate support

2.7 Conceptual Framework

Figure 2.1 is indicating how the variables relate to each other. The independent variables include: availability and adequacy of physical facilities; government funding and quality Control; adequacy of qualified trainers; and corporate support while the dependent variable is the students' participation rates. Enrolment of students in TTIs is the input process in students' participation in TTIs. The process is the training of students. The output is the acquisition of technical skills by students as a result of participation in TTIs whose indicators are high enrolment and retention rates, low drop-out rates, and high completion rates.

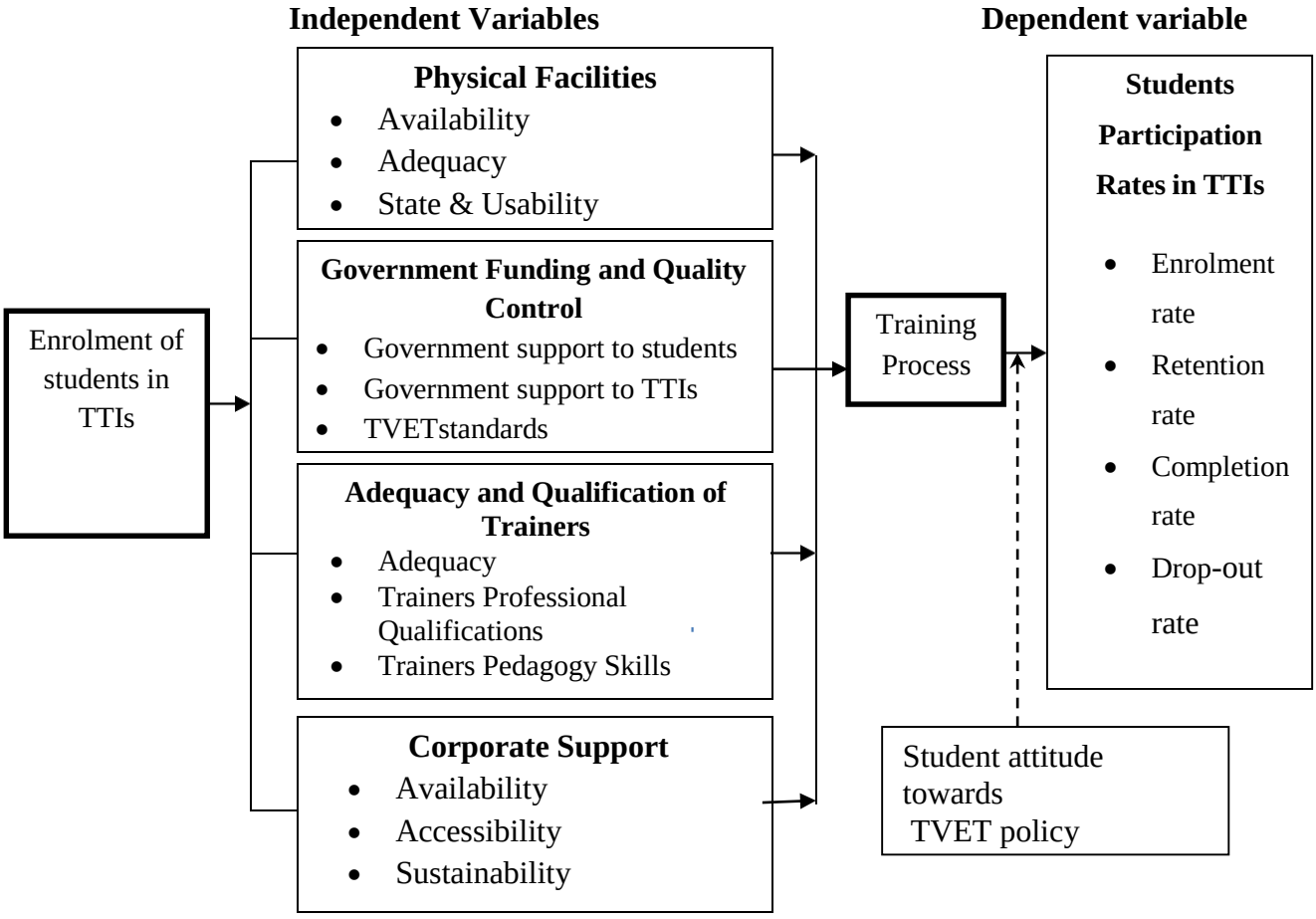

Figure 2.1: Conceptual Framework

Participation in TTIs is influenced by four independent variables, as shown in figure 2.1 above. The first is physical structures, with the researcher focused on the availability, adequacy, state and usability of the physical facilities within the institutions. Ongulu & Ibrahim (2021) established that adequacy of physical facilities and equipment used for training in TTIs isstrongly and positively correlated with higher students' enrolment rates (β1= 0.864). Ngugi and Muthima (2017) observe that students prefer to enrol in TTIs that have adequate training equipment while Oloo (2018) observes that TTIs that have adequate physical facilities tend to attract and enrol more students; enhance retention, completion and eventual graduation from these institutions

The second variable was government funding and quality control, which the researcher focused on government funding to students and TTIs as well as quality control through TVET standards;by both national and county governments. According to Boushey, (2019) and Léonard &Dieu, (2021), financial aid given to institutions by the government plays a significant role in increasingcollege enrolment and completion of training among low-income students. Ngware *et al.,* (2022) observes that the government puts in place various policies and programs to enhance access and participation. Tusiime *et al.,* (2020) on the other hand observe that government funding and quality control is instrumental in ensuring that TTIs are equipped with modern facilities and equipment which attracts students to enrol in TTIs.

The third variable was based on tutors, which was determined by their adequacy, and qualifications within the TTIs in Trans-Nzoia County. According to Tondeur *et al.,* (2019), students perceive TTIs with adequate trainers as offering high quality training and are therefore likely to enrol in these institutions. Mkala (2018) established that adequate number of trainers in proportion to the number of trainees in a class is likely to increase enrolment in TTIs. Macharia

et al., (2020) on the other hand observes that a combination of adequate trainers with professional background training play a significant role in enrolment and participation of students in TTIs. According to Habler *et al.,* (2021), trainers with a professional training background report higher rates of the student participation rate in their classes as they are perceived to provide quality instructions to students.

The fourth variable was based on corporate support, on which the researcher examined availability, accessibility, and sustainability of the support given by the corporate sector. According to Zhang and Cheng (2019) support provided by corporates enhance participation into TTIs by providing resources to support students; improve state of facilities and equipment in the institution and hire better trainers. This ensures that more students are able to enrol and complete training in TTIs. Similar observations were made by Morley (2019) and Bussell (2020)who stated that corporate support provides financial resources that can be used to improve the quality of TTIs; which in turn attracts more students enhancing their participation in TTIs. The process was the act of transmitting technical and vocational skills to learners by tutors. The output was the impact on participation rates of students in the TTIs whose indicators are high enrolment and retention rates, low drop-out rates, and high completion rates. Student attitude andTVET policy act as intervening variables. They affect the strength of the relationship betweenthe dependent and independent variables.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter describes the research methodology that was used to complete the study. The study design, the target population, the sample size and sampling techniques, the research instruments, the instrument validity, and reliability, the data collection process, the data analysis methods, and ethical issues are all part of it.

Research Design

A research design is a systematic method used by researchers to direct scientific studies (Lewis, 2015). The investigation employed a descriptive survey research design. A descriptive survey, according to Dawadi *et al.,* (2021) entails gathering information to test hypotheses or respond to inquiries about the current situation of the study's subject. Lune & Berg (2016) observes that descriptive survey research design is the most appropriate method to collect both qualitative and quantitative data. The descriptive research design was used to collect information on the study variables as they are on the ground; through the analysis of data using a selected representative sample. This enhanced collection of data from a broader population and provided a deeper understanding of how institutional factors affect the students' participation rates in TTIs. Quantitative data was collected through the use of questionnaires while qualitative data was collected through interviews schedules.

Target population

A population is a group of individuals with one or more common characteristics that are of interest to the researcher (Prabhat & Mishra, 2015). A target population is a large number of items or elements from which a sample population to be tested is selected. This study targeted

tutors, students, and principals of three TTIs Endebes, Cherang'any, and Kiminini in Trans Nzoia County. All the three categories of respondents were chosen as they are directly involved in TVET education in Trans-Nzoia County. According to data from the office of the County Director, in the targeted 3 TTIs, there are a total of 68 tutors, 1208 students, and 3 principals. Therefore, the target population of the study was 1279 respondents.

Sample Size and Sampling Procedure

A sample is a group that is selected from a larger population so as to obtain information about this population as a whole. A good sample should be representative and of sufficient size forthere to be confidence in its characteristics (Dawadi *et al.,* 2021). The sampling procedure is a method of selecting a number of items or people from a population so that the chosen group contains members who are representative of the full group's characteristics (Prabhat & Mishra, 2015).

According to Prabhat and Mishra (2015), a large sample size is required to reduce the sampling error in a study. The TTIs were chosen using the census technique because Trans Nzoia County has only three TTIs. All principals of the three TTIs were selected using purposive sampling as key informants. Simple random sampling was used to select tutors and students. Participants' names were written on folded pieces of paper and placed in a container that was shaken and one piece of paper taken at a time. Participants whose names appeared on the picked piece of paper were selected to participate in the study. This was done repeatedly until the desired sample size was attained. This technique ensured that each element in the population had an equal chance of being selected (Matula *et al,* 2018).

According to Mugenda and Mugenda (2009) a sample size of 10% to 30% is adequate to represent the target population and conduct an analysis. Therefore, since the population is large,

simple random sampling was used to select 30% of tutors and 15% of students. The study's sample size is shown in Table 3.2:

Table 3.1: Sampling Matrix

Category	Total Population	Percentage	Sample size
Principals	3	100%	3
Tutors	68	30%	20
Students	1208	15%	181
Total			**204**

Source: Author (2022)

Therefore, the study's sample size was 204 people. Because the recommended minimum element for statistical analysis is 30 elements, the sample size was considered to be adequate for the study

Data Collection Instruments

The study relied on primary data. Primary data is obtained for the first time. To obtain information on institutional factors influencing students' participation rate in TTIs in Trans- Nzoia County, including availability and adequacy of physical facilities, adequacy and qualifications of tutors, government funding and quality control , and corporate support; a semi- structured questionnaires with closed and open-ended questions was used to collect data from thestudent and trainers/tutors. The questionnaires were divided into two sections. Section A collected data on respondents' demographics and section B gathered data on the respondents' views concerning the relationship between institutional factors of study and participation rates of students. Questionnaires were considered to be a suitable data collection tool for the study, because they allowed the researcher to collect data from a large sample in the shortest amount of time (Marshall &Rossman, 2014).

Furthermore, questionnaires allow for greater uniformity in the way questions are asked and answered thus ensuring greater comparability in the data collected. This makes the data to be consistent and easier to analyse. Questionnaires were also used by Munyite (2018) to obtain information from students in his study on factors influencing access rates to youth polytechnics and TVETs in Teso North Sub- County. They were also used by Mutuku (2018) to obtain information from managers; the dean of studies and trainees on his study of institutional factors influencing trainees' participation rates in Public TVETS in Makueni County.

Interview schedules were used to gather information from TTIs' principals. The researcher interviewed the principals and took notes on their responses. These interviews were systematic because similar questions were asked in a similar manner to all the principals (Khaguya, 2014). Respondents were able to provide more detailed information because they were more knowledgeable about institutional factors influencing students' participation in TTIs. Interview schedules were also used by Munyite (2018) to obtain information from institutional managers.

Records provided by the TTIs administration office were analysed to obtain information on the number of tutors, trainees' enrolments, and retention, drop-out, and completion rates. Records in in the accounts office of the institutions were analysed to obtain information on government funding and quality control and corporate donations. Additionally, an observation guide was used to check the availability of physical facilities and equipment in the TTIs. This assisted the researcher to verify the information captured in the questionnaires and interview schedule.

Piloting of Instruments

According to Nashwa and Kinchin (2018), pilot testing entails gathering data prior to the actual data collection process. This exercise directs the examination of the research questions and the evaluation of whether the expected outcomes are met.

A pre-test is designed to improve understanding of the question and produce accurate results. Pre-tests are administered to 1-10% of the sampled population. Based on this justification, 14 respondents, or 10% of the sample size, took part in the pilot test.

Instrument Validity

The extent to which the outcome of data analysis accurately represents the situation under study is referred to as validity (Bolarinwa, 2015). Validity may also refer to the meaningfulness and accuracy of data that has been generated by a given instrument (Matula *et al,* 2018). The content validity of the instruments was tested to determine how accurately items in the instruments bring out the information required by the researcher. The supervisors reviewed and analysed the components of the questionnaires and interview schedule to ensure that only items that accurately measure study variables were included in the instruments. Suggestions from thesupervisors were used to improve the instruments so that more accurate and meaningful data wasobtained in the study.

Instrument Reliability

When an instrument used to measure a phenomenon consistently produces similar results after several trials, it is said to be reliable (Bolarinwa, 2015). Cronbach Alpha, a reliability indicator that measures internal consistency, was used in this study. In this study, a cut-off value of 0.7 was used, as suggested by (Bolarinwa, 2015). The instruments were therefore considered to be reliable as they produced a Cronbach Co-efficient of 0.7 and above as indicated in Table 3.2:

Table 3.2: Reliability of the Research Instruments

Variable	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
Physical Facilities	.829	.823	12
Government funding and quality control	.849	.759	11
Adequacy and Qualifications of Trainers	.828	.747	11
Corporate Support	.752	.755	7

Furthermore, the sample size was large enough to ensure that the results are reliable and statistically valid. Validated instruments were used to ensure the instruments' dependability. Multiple methods of data collection, such as questionnaires, interviews schedule, document analysis, and observation were used to ensure the reliability of the findings, and finally, the results were checked for consistency in terms of data coding, data entry, and data analysis to ensure the reliability of the instrument.

Data Analysis Techniques

The data collected was checked to ensure that all parts of the questionnaire were filled in and then coded for analysis. Respondents' demographic data were analysed using descriptive statistics while data on the study variables were analysed using descriptive statistics, content analysis, and regression analysis in order to get the association between the predictor and the explanatory variables. The Statistical Package for Social Sciences (SPSS) version 22 and Excel version 2019 software were used for quantitative data analysis. The results obtained for quantitative data were presented by the use of tables in percentage, mean, and standard deviations.

A multiple linear regression model was used to establish the proportion of variability in students participation in TTIs as explained by institutional factors; significance of the relationship between the two variables; and the extent to which changes in institutional factors affect students participation rate in TTIs.

Similarly, qualitative data from interview guides and observations were organized into themes based on the research questions and then coded into NVIVO software for analysis. The analysed qualitative data was presented in text report form. Efforts were made to avoid statistical errors that might lead to misinterpretation of the collected data.

Ethical Considerations

Respondents were provided with enough information so that they could participate in the study willingly and without coercion. A department letter of authorization was requested, and all academic research guidelines were followed. A research permit from the National Commission for Science, Technology, and Innovation (NACOSTI) was obtained before beginning the research. Letters of authorization to carry out the research were also obtained from the County Director of TVET education and the County Commissioner respectively. The purpose of the study was clearly explained to the respondents. Full consent of respondents was obtained from them prior to the administration of the questionnaire. Furthermore, in order to protect respondents' privacy, they were not required to indicate their names on questionnaires. The interviews were conducted in private offices where there were no other people listening to the conversation.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

Introduction

This study investigated the influence institutional factors on students' participation rates in public technical training institutions in Trans Nzoia County, Kenya. Data was collected from the students, tutors and principals to provide answers to the study objectives which sought todetermine how availability and adequacy of physical facilities; government funding and quality control; adequacy of qualified tutors and corporate support influences the student participation rate in TTIs. This chapter presents research findings of the influence of Institutional factors on students' participation rate in public TTIs in Trans Nzoia County. The findings are presented based on the Demographic characteristics of the respondents; based on study objectives; and correlation analysis.

Response Rate

Table 4.1 indicates the response rate of instruments of data collection that were administered to Technical Training Institutions (TTIs) trainers/instructors; TTIs trainees and principals of TTIs against those that were filled and returned:

Table 4.1: Response Return Rate

Category	Administered	Returned	Response Rate (%)
TTIs Trainers Questionnaires	20	19	95%
TTIs Trainees Questionnaires	181	167	92.3%
TTIs Principals Interviews	3	3	100%
Total	**204**	**189**	**92.6%**

The overall response return rate was 92.6%. Out of the 20 questionnaires administered to TTIs trainers, 19 were adequately filled and returned giving a return rate of 95%. From the 181

questionnaires administered to TTIs trainees, 167 were filled and returned giving a return rate of 92.3%. All the 3 interviews were successfully conducted with the principals of the 3 TTIs giving a return rate of 100%. Mugenda and Mugenda (2009) observe that a response rate of 70% and above is excellent for analysis. Therefore, this response was considered to be sufficient for purposes of analysis and drawing of conclusions. The high return rate of the instruments can be attributed to the structured nature of most of the items in the questionnaire which required less writing. Instead, respondents easily selected responses significantly reducing the time taken to fill out the questionnaires. Additionally making earlier appointments prior to the interviews enabled the researcher to secure all the interviews with the TTI principals.

Background Information of the Respondents

This section presents information on gender; courses undertaken by TTI trainees; level ofeducation and work experience of TTI trainers/instructors in the following sections:

Distribution of TTIs Trainers and Trainees by Gender

Gender of TTI trainees is instrumental in establishing whether male and female trainees have equal opportunities of accessing and participating in TVET education. Table 4.2 shows the distribution of trainees and trainers by gender:

Table 4.2: Distribution of TTI Trainers and Trainees by Gender

Gender	TTI Trainees		TTI Trainers	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Male	109	65.3%	12	63.2%
Female	58	34.7%	7	36.8%
Total	**167**	**100%**	**19**	**100%**

Table 4.2 shows that male trainees constitute a significantly large proportion of students enrolled in TTIs in Trans Nzoia County compared to female students. This implies that there is low

uptake of technical courses among female students compared to male students. Similarly, male instructors/trainers constitute a large percentage of the trainers in TTIs compared to female trainers indicating a gender gap in the uptake of technical courses between man and women. Whilst there are no observable differences in cognitive abilities of male and female trainers,these findings imply that more male trainers tend to teach technical courses compared to female trainers. Conventionally more men have pursued courses in science technology and maths (STEM) compared to women. Whereas the recent past has seen a gradual shift with more womenventuring into technical courses, this is not the case in Trans Nzoia County. Hence there is a need to put in place measures that will attract female students to STEM courses.

Distribution of Trainees based on Courses undertaken in TTIs

Courses undertaken by TTIs trainees was instrumental in establishing if there are gender differences in uptake of technical courses among TTIs as shown in Table 4.4:

Table 4.3: Uptake of Technical Courses by Gender

Course Undertaken	**Male**		**Female**	
	Frequency	**%**	**Frequency**	**%**
Diploma in Medical Engineering	14	87.5%	2	12.5%
Diploma in Electrical Engineering	23	88.5%	3	11.5%
Diploma in ICT	18	75.0%	6	25.0%
Diploma in Automotive Engineering	19	100%	-	-
Diploma in Building and Construction Technology	25	96.2	1	3.8%
Diploma in Fashion and Design	-	-	46	100%
Artisan certificate in Electrical Installation	8	100%	-	
Welding and Fabrication	2	100%	-	
Total	**109**		**58**	

Table 4.4 indicates significant gender differences in uptake of technical courses in TTIs in Trans Nzoia County. Male trainees constitute a considerably larger proportion of those undertaking STEM courses compared to female trainees. Courses such as medical engineering, electrical engineering; automotive engineering; Information and communication technology have over 75% male trainees with female trainees constituting less than 25%. A significant proportion of female trainees (79.3%) are undertaking fashion and design. It is only the remaining 20.7% of female students that are enrolled in the other technical courses. Thus, uptake of STEM courses among female trainees remains significantly low. This implies that female students in Trans Nzoia County have not embraced STEM courses. This calls for strategies to attract female students in STEM subjects at the high school level and enhance their uptake of the same courses at the tertiary level.

Reason for Undertaking the Course

The reason for undertaking provides a rationale for the choices made by male and female trainees and may explain the gender differences in courses pursued as shown in Table 4.4:

Table 4.4: Reason for Undertaking the Course

Reason	Frequency	%
The course was my area of Interest	164	98.2%
The course has a high demand in the market	163	97.6%
I did not qualify for the course of my interest	36	21.6%

Table 4.4 indicates that trainees in TTIs in Trans Nzoia County chose the courses out of their own volition based on their area of interest as indicated by 98.2% and high demand in the labour market. These were the main reasons for choosing these courses. It is only 21.6% of the trainees

who are undertaking their courses because they did not qualify for the courses that they were interested in. This implies that female trainees deliberately chose not to undertake technical courses while male trainees deliberately preferred courses that are technical. Thus, female students in Trans Nzoia County have not fully embraced technical courses.

TTIs Trainers Level of Education

The TTIs' level of education indicates whether the trainers have the relevant professional qualifications to deliver quality instructions to trainees in TTIs as shown in Table 4.5:

Table 4.5: TTIs Trainers Highest Level of Education

Education Level	**Frequency**	**Percentage (%)**
Diploma	7	36.8%
Higher National Diploma	2	10.5%
Degree	10	52.6%
Total	**19**	**100%**

Table 4.5 shows that majority of trainers (52.6%) in TTIs in Trans Nzoia County had a degree level of education in their respective field of specialization; 10.5% had a higher national diploma; and 36.8% a diploma. Based on the qualifications required from the State Department of Vocational and Technical Training as shown in Figure 4.1, the trainers meet the required qualifications to teach in TTIs.

Figure 4.1: Technical Trainers Qualifications

Source: PSC Advert for Vocational and Technical Trainers Vacancies (April, 2023)

Figure 4.1 indicates that technical trainers were required to have a diploma, a Higher National Diploma (HND) or a degree in their respective field of specialization to be employed as technical and vocational trainers in different TVET institutions. This shows that the trainers had the required qualifications to teach in TTIs. Thus TTIs in Trans Nzoia have qualified Technical Trainers with the necessary background training in their respective fields of specialisation. This enhances their ability to deliver quality instructions to trainees.

4.3.5 TTIs Trainers' Experience in Teaching

The TTIs trainers work experience equips the trainers with first-hand knowledge on students' participation in TTIs and factors that enhance or limit participation based on practical experience of teaching in TTIs. Table 4.7 shows trainers' experience in teaching in TTIs:

Table 4.6: Experience in Teaching in Technical Training Institutes

Years	Frequency	Percent
Less than one year	3	15.8%
1-2 years	2	10.5%
3-5 years	11	57.9%
6-10 years	3	15.7%
Total	**19**	**100%**

Table 4.6 shows that over half (57.9%) of technical trainers in TTIs in Trans Nzoia County have 3-5 years' experience in teaching; 15.7% had 6-10 years' experience; 15.8% had less than a year experience; and 10.5% had 1-2 years' experience. Cumulatively, 73.6% of the trainers had over 3-10 years' experience. Hence, a majority of the trainers had a considerable practical experience teaching in TTIs. Therefore, trainers in Trans Nzoia TTIs are well-versed with information on factors that enhance or limit the participation of students in TTIs.

Availability and Adequacy of Physical Facilities in Technical Training Institutes

The first objective of this study was to determine how physical facilities influence students' participation rate in Technical Training Institutes. The study therefore established the availability; adequacy; condition and usability of the facilities in the TTIs. Correlation analysis was conducted to determine the influence of these facilities on TTIs trainees' participation in learning as presented in the following subsections:

Availability of Physical facilities in TTIs

The observation schedule was used by the researcher to establish and check on the availability of fundamental facilities required for teaching technical courses in the three TTIs. Table 4.7 indicates the availability of physical facilities in the three (3) TTIs in Trans Nzoia County:

Table 4.7: Availability of Physical Facilities in TTIs

Physical Facility	Available		/NOT Available	
	Frequency	%	Frequency	%
Workshops that are equipped with modern equipment, tools & machines	3	100%	-	-
Classrooms that are well furnished	3	100%	-	-
ICT facilities and infrastructure	2	66.7%	1	33.3%
Laboratories that are equipped with modern facilities				
Modern library that is adequately stocked with relevant course books				

Table 4.8 shows that all the three (3) TTIs in Trans Nzoia County have workshops that are well equipped with modern equipment and materials; classrooms that are well furnished and ICT facilities. However, 2 (66.7%) of the institutions have laboratories that are equipped with modern facilities. None of the institutions has a library that is adequately stocked with relevant course books but instead improvises by storing course books in a designated room. Similarly, the laboratory in one of the institutions is not a fully-fledged modern laboratory but an improvised one. Therefore, TTIs in Trans Nzoia County have not invested all the physical facilities required to provide quality training.

Technical courses are highly practical in nature and require a hands-on skills approach toteaching

where trainees learn by practice (Oloo, 2018). Therefore, TTIs should be equipped with workshops and laboratories that have the right equipment, tools, and machines. For instance, trainees undertaking medical engineering require workshops that are equipped with medical

equipment; trainees undertaking automotive engineering require automobile machines and equipment; and trainees undertaking fashion and design require a workshop that is equipped with sewing machines and clothing materials. The availability of these facilities enables trainees to undertake practical lessons that equip them with practical and technical skills applicable in the job market increasing their probability of securing jobs or being self-employed. TTIs that lack essential facilities result in theoretical-centred lectures resulting in graduate trainees that lack expertise in their field of specialization. This significantly reduces the possibility of securing employment in the job market.

According to the TVET strategy plan (2019), ICT facilities are instrumental in ensuring TTIs adopt the use of modern technology in training students in preparation for the modern place of work. Classes on the other hand are required for the purposes of equipping learners withtheoretical knowledge in their respective fields; libraries provide reading materials and course textbooks that enhance learners' knowledge and skills in their field of specialization; while laboratories are required for purposes of conducting experiments for students undertaking courses in applied chemistry or biology. Oloo (2018) argues that TTIs that have all the required physical facilities tend to attract and enrol more students and enhance retention, completion, and eventual graduation. Students are likely to enrol and complete training in TTIs that have all essential facilities as the TTIs are equipped to train and adequately prepare them for practical work in the job market. Thus, lack of essential facilities such as ICT facilities, laboratories and libraries in some of the TTIS may negatively affect the acquisition of technical expertise in their field of specialization. It may also reduce enrolment and completion rates of trainees as they prefer TTIs that have all the necessary facilities.

Adequacy of Physical Facilities in TTIs

To determine adequacy of facilities in the TTIs, trainers and trainees on the other hand were required to indicate the adequacy of physical facilities in the respective institutions using a scale of 1-5 where 1=Very Inadequate; 2=Inadequate; 3=moderately adequate; 4=Adequate and 5=Very Adequate as shown in Table 4.8:

Table 4.8: Adequacy Physical Facilities

Statement	**1**		**2**		**4**		**Mean**
	N	%	N	%	N	%	
Classrooms that are furnished with sufficient furniture			184	98.9%	2	1.1%	2.028
Workshops	183	98.4%	3	1.6%			1.958
Equipment; tools and machines in all the courses/departments	181	97.3%	3	1.6%	2	1.1%	1.056
ICT facilities			180	96..8%	6	3.2%	2.056
Laboratories	181	97.3%			5	2.7%	1.084
Relevant course books in all the courses offered	10	5.4%			176	94.6%	3.831
Aggregate Mean							**2.002**

Findings in Table 4.7 indicates that 98.9% of the trainers and trainees in TTIs in Trans Nzoia County indicated that their respective institutions have inadequate Classrooms that are furnished with sufficient furniture compared 1.1% who indicated that there are adequate classrooms in

their TTIs. Majority of the trainers and trainees (98.4%) indicated their workshops in their TTIs were very inadequate compared to 1.6% who indicated that the workshops were inadequate; 97.3% of the respondents indicated that equipment and machines in their TTIs were veryinadequate compared to 1.6% who indicated that the equipment and machines are inadequate and1.1% who indicate the equipment and machines are adequate. The findings also indicate that 96.8% of the trainers and trainees indicated that ICT facilities in their institutions were inadequate while 3.2% indicated that ICT facilities were adequate; 97.3% indicated that laboratories in their TTIs were very inadequate in comparison to 2.7% who indicated that the laboratories were adequate. However, 94.6% indicated that course books were adequate while 5.4% indicated that course books in their libraries were very inadequate. An aggregate Likert score 2.002 implies that there are inadequate physical facilities among TTIs in Trans Nzoia. Thisimplies that TTIs in Trans Nzoia County do not have adequate physical facilities required to provide quality training to students.

Even though the TTIs have adequate relevant books in all the courses, the classrooms, workshops and ICT facilities are inadequate while the Equipment; tools, and machines required for practical lessons in the different courses are very inadequate. Similarly, the laboratories were very insufficient with only one of the TTIs having an improvised laboratory. This information was corroborated during the interviews. Two of the principals (66.7%) observed that eventhough their respective TTI do not have libraries, they have course books in the courses offered which are stored in a designated room. Another principal observed that they do not have hard copies of course books but rely on digital resources. All the three principals indicated that they have had an influx in enrolment of students in their respective institutions since the government put in place measures such as funding students in TTIs through capitation and HELB loan to

enhance enrolment and participation of students in TVET institutions. The influx of the students in the TTIs has not been matched with an increase in the equipment, tools and machines required for practical work as well as the construction of new classes, workshops or laboratories. As a result, the facilities in the TTIs have become insufficient in comparison to the large number of students enrolled in the institutions. As a result, the TTIs have experienced pressure on their physical facilities as they are not sufficient in proportion to the number of students enrolled inthe TTIs. Oloo (2018) observes that TTIs that have adequate physical facilities tend to attract and enrol more students; enhance retention, completion and eventual graduation from these institutions. Students are unlikely to enrol in TTIs that have inadequate physical facilities while those that enrol in such institutions are likely to drop out before completion as the TTIS are not equipped totrain and adequately prepare them for practical work in the job market. The significant role played by physical facilities in TTIs was emphasized by Ongulu& Ibrahim (2021) who established that adequacy of physical facilities and equipment used for training students in TTIsis strongly and positively correlated with higher students' enrolment rates ((β_1= 0.864). Ngugi and Muthima (2017) further observed that students prefer TTIs that have adequate training equipment as this influences the acquisition of practical skills required at the workplace. Thus inadequacy of physical facilities in the TTIs may adversely affect the quality of training and limitacquisition of practical and technical skills required in the job market. This may reduce job prospects for such trainee graduates from TTIs in Trans Nzoia.

State and Usability of Equipment and Machinery in TTIs

In addition to the availability and adequacy of physical facilities, the equipment and machinery in TTIs should be in a good state that can be used by the students for practical. The trainees and

trainers were also required to indicate the state of the equipment and machinery that they use for practical lessons in relation to current technological advancements as shown in Table 4.9:

Table 4.9: State of Equipment and Machines in TTIs

State of Equipment	Frequency	Percentage
Modern and up to date with current technological advancements	174	93.5%
Obsolete and out-dated	12	6.5%
Total	**186**	**100.0**

Table 4.9 indicates that majority of the respondents 93.5% indicated that the equipment and machines used for practical lessons among TTIs in Trans Nzoia County are modern and up to date with current advancements in technology. It is only 6.5% who indicated that equipment and machines in their institutions are obsolete and out-dated. Makori (2018) and Yewah (2015) note that use of modern equipment in technical institutes determines the quality of instructions and subsequently the quality of graduates from the institutions. Modern facilities are essential in making training relevant to the modern workplace and improving the quality of trainees by producing graduates who are skilled and adequately prepared to operate modern equipment.

However, old and out-dated equipment in TTIs fails to prepare trainees for the modern job market as the equipment that they use does not reflect the needs of the current labour market and the modern workplace. The importance of modern equipment and facilities in TTIs has been recognized by the TVET strategy plan (2019), which seeks to ensure all TTIs in the country adopt the use of modern technology in training students. Therefore, TTIs in Trans Nzoia County use modern technology in training students which ensures that they are adequately prepared for

the modern workplace. These findings are contrary to those of Chijioke (2018) and Wausi (2018) which showed that most TVET fails to prepare trainees for the modern job market due to of lack modern facilities.

Trainers and trainees/students were also required to indicate the condition and usability of the equipment and machines in their respective schools using a scale of 1-3 where 1= Poor Condition; 2=Good Condition and 3=Excellent conditions as shown in Table 4.10:

Table 4.10: TTIs Trainers View on Condition and Usability of Equipment

State of Equipment	Frequency	Percentage
Excellent Condition (Equipment/ Machine that is utilized to its full designated capacity without being modified or repaired)	98	52.7%
Good Condition (Modified/repaired equipment that is operating at or near their fully designated capacity and may require minor repairs in the near future to operate effectively)	83	44.6%
Poor Condition (Equipment operating below the designated capacity; requires extensive repairs/replacement of key elements to operate at near full capacity)	5	2.7%
Total	**186**	**100.0%**

Table 4.10 indicates that majority of the equipment and machines in TTIs in Trans Nzoia County are in in excellent condition and being utilized to their full designated capacity without being modified or repaired as indicated by over half of the respondents (52.7%). 44.6% of the respondents indicated that equipment and machines in their TTIs are operating at near full capacity and only require minor repairs to operate effectively. It is only a paltry 2.7% that indicated that equipment in their TTIs require extensive repairs/replacement of key elements to

operate at near full capacity. Therefore, equipment and machines in TTIs are in excellent and good condition for practical lessons. This enhances ability of students to undertake practical lessons which ensures that they use practical and hands on experience that enables the students toacquire practical and technical skills required in the job market.

Influence of physical facilities on Participation of Students in TTIs

Pearson's correlation analysis was used to determine influence of physical facilities on participation of students in TTIs as shown in Table 4.11:

Table 4.11: Influence of Physical Facilities on Participation of Students in TTIs

		Students Participation in TTIs	Availability of Physical Facilities	Adequacy of Physical Facilities	State & Usability of Physical Facilities
Students Participation in TTIs	Pearson Correlation	1	.773**	.741**	.506**
	Sig. (2-tailed)		.000	.000	.000
	N	186	186	71	71
Availability of Physical Facilities	Pearson Correlation	.773**	1		
	Sig. (2-tailed)	.000			
	N	186	71		
Adequacy of Physical Facilities	Pearson Correlation	.741**	.298*	1	
	Sig. (2-tailed)	.000	.002		
	N	186	71	186	
State and Usability of Physical Facilities	Pearson Correlation	.506**	.848**	.277*	1
	Sig. (2-tailed)	.000	.000	.019	
	N	186	186	186	71

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

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

Table 4.11 indicates that the availability of physical facilities has a strong positive correlation with participation of students in TTIs as indicated by the correlation coefficient of 0.773 ($p=0.000<0.05$). Adequacy of physical facilities has a strong and positive correlation with participation of students in TTIs as shown by a correlation coefficient of 0.741 ($p=0.000<0.05$). State and Usability of physical facilities has a strong positive correlation with students' participation in TTIs. All the p-values are less than the 0.05 significance level which implies that the correlation is statistically significant. Therefore availability, adequacy and usability of physical facilities have a positive and significant effect on student participation in TTIs.

Government Funding to and Quality Control of Technical Training Institutions

The second objective of this study was to determine the influence of government funding and quality control on students' participation rates in TTIs. The researchers therefore sought to establish support provide by the county and national governments to students in TTIs; the effects of the support in enhancing students' enrolment in TTIs; measures put in place to control quality of training in TTIs. Correlation analysis was conducted to determine the influence of government funding and quality control on students' participation in TTIs.

Government funding and quality control to TTI s Trainees/Students

TTIs trainees were required to indicate the support that they have received from the government to enhance the participation of trainees in TVET education on a scale of 1-5. Table 4.12 shows TTIs trainees' perspective on support provided by the government:

Table 4.12: Government funding and quality control to Students in Technical Training Institutions

Statement	2		4		5		Mean
	N	%	N	%	N	%	
The government has subsidized fees for students in TTIs			3	1.8%	164	98.2%	4.985
Students in TTIs are supported by the HELB Loan and bursaries			5	3.0%	162	97.0%	4.971
County government and the National government CDF provides bursaries to students in TTIs			80	47.9%	87	52.1%	4.514
Fees subsidy, loan, and bursaries from the government have increased enrolment and participation of students in TTIs	4	2.4%			163	97.6%	4.957
Aggregate Likert Score							**4.856**

Findings in Table 4.12 indicated that 98.2% of the students strongly agreed that the government the government has subsidized fees for students in TTIs while 1.8 agreed that the government subsidizes fee for students in TTIs; 97.0% of the students indicated that they receive HELB loan while 3.0% agreed that they are supported by the HELB Loan. The findings also reveal that over half of the students (52.1%) strongly agreed and 47.9% agreed that the county government provides bursaries to students in TTIs. Majority of the students (97.6%) strongly agreed that support provided by the government through fee subsidies, HELB loans, and bursaries has increased enrolment and participation of students in TTIs. An aggregate mean of 4.856 implies

that the students strongly agreed that support from the government has enhanced students' participation in TTIs.

Thus, students in TTIs in Trans Nzoia County receive support from the national and county governments in the form of fee subsidies, loans, and bursaries to finance their education. According to Boushey, (2019) and Léonard & Dieu, (2021), financial aid given to institutions by the government plays a significant role in increasing college enrolment and completion oftraining among low-income students. Ngware*et al.,* (2022) observe that various policies and programs put in place by the government to support students in TTIs enhance access andparticipation of students in TTIs. Therefore, the financial support provided to students in TTIs in Trans Nzoia County may increase the enrolment and participation in TTIs education.

This information was corroborated by the TTIs principals during the interviews. According to one of the principals, the government finances the education of students in TTIs through capitation and HELB loan. Out of the 56, 400 fees for TTIs, the government provide a capitation of KSH. 30, 000 for every student enrolled in TTIs, and the rest of the fee is financed through thehigher education loans which the student applies and receives per semester and the bursariesfrom the county government from their respective MCAs and the area member of parliament. These sentiments were echoed by another principal who observed that financial support providedby the national and county government has significantly addressed the problem of school fees forstudents from humble backgrounds. Statistics provided by one of the principals indicate that an estimated 417 students were beneficiaries of the higher education loans. The county government on the other hand supports students through the Elimu Bursaries where 30% is allocated to students in TVET institutions. With support from the government, more students can have

enrolled in the TTIs as they can now afford to pay the school fee. Records provided in one of the TTIs indicate that capitation is provided to TTIs on a quarterly basis as shown in Table 4.13:

Table 4.13: Government Capitation to Students in TTIs

Financial Year 2020/21				
Quarter	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Capitation	-	1, 102, 500	240,000	1, 102, 000
Financial Year 2021/22				
Capitation	1, 807, 500	1, 807, 500	2, 115, 0000	-
Financial Year 2022/23				
Capitation	1, 410, 000	1, 528,000	-	-

However the principals observed that the government does not consistently disburse the capitation of KSH. 30, 000 as the government sometimes disburses a lesser amount. At times the disbursement is delayed as is the case in the 3rd quarter of the F/Y 2022/23 where the financial year has ended yet the capitation for the 3rd and 4th quarter has not been disbursed.

Government funding and quality control to TTIs

TTIs trainers were required to indicate support provided to their respective TTIs to enhance the quality of education on a scale of 1-5 (where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree & 5= Strongly agree). Table 4.14 shows TTIs trainers' perspective on support provided by the government:

Table 4.14: Government funding and quality control to Technical Training Institutions

Statement	2		4		5		Mean
	N	%	N	%	N	%	
The government provides funding to TTIs			5	26.3%	14	73.7%	4.702
The government has established a regulatory authority for all TTIs across the country			1	5.3%	18	94.7%	4.915
The government has standardized evaluations and issuance of qualifications across all TTIs			3	15.8%	16	84.2%	4.859
The government ensures the recruitment of qualified instructors through registration and licensing of trainers	1	5.3%			18	94.7%	4.943
The government facilitates training of TTIs instructors on pedagogy (methods and practice of teaching)			11	57.9%	8	42.1%	4.422
Average Likert score							**4.784**

From the findings in Table 4.14, 73.7% of the trainers strongly agreed that the government provides funding to TTIs while 26.3% agreed that the government funds TTIs. Majority of the trainers (94.7%) strongly agreed that the government has established a regulatory authority for all TTIs across the country while 5.3% agreed; 84.2% strongly agreed that the government has

standardized evaluations and issuance of qualifications across all TTIs compared to 15.8% who agreed; and 94.7% of trainers strongly agreed that the government ensures the recruitment of qualified instructors through registration and licensing of trainers while 5.3% disagreed. The findings also indicate that 57.9% of the trainers agreed that the government facilitates training of TTIs instructors on pedagogy (methods and practice of teaching) while 42.1% of the trainers strongly agreed that the government facilitates training of TTI s instructors in pedagogy. This implies that the government funds TTIs in Trans Nzoia and has put in place measures to regulate and control quality of training among TTIs.

This was corroborated by information provided through interviews with the principals. According to one of the principals, in addition to funding the education of students in TTIs, the government funds various projects in the TTIs. According to the principals, the government has funded the procurement of equipment and facilities such as computers, tractors, furniture, and machines required for practical. Another principal observed that the government had funded the construction of a hostel in the TTI while National Government CDF has funded the construction of classrooms. Similarly, another principal observed that the government had funded the construction of story building in the institution and equipped the Department of Fashion and Design with the equipment. Arigye (2017) observes that government funding and quality control for TTIs significantly determines the quality of training in the institutions. Government regulations of TTIs enhance the quality of training by ensuring that only accredited TTIs that are well-equipped with sufficient training facilities are allowed to operate and offer training to students. Tusiime, Johannesen, &Gudmundsdottir (2020) on the other hand observe that government funding and quality control is instrumental in ensuring that TTIs are equipped with modern facilities and equipment training

and integrate ICT in preparing trainees for the modern workplace. Therefore government funding to TTIs in Trans Nzoia is instrumental in ensuring that TTIs have the facilities required to equip students with practical and technical skills in preparation for the workplace.

Interviews with the school principals also revealed that the government has established the TVET Authority which is mandated with regulating quality training of training by ensuring only TTIs that are accredited are allowed to operate. The Authority also checks on the quality of training through licensing and registration of TTIs trainers/instructors ensuring that trainers that have the required professional qualifications are recruited to teach in TTIs. In addition tolicensing of trainers, the government enhances the continuous professional development ofteachers through the Kenya Technical Trainers College where trainers undergo training or retraining on pedagogy; the use of emerging technologies in content delivery; and trends in the industry. To enhance the credibility of evaluation and issuance of certifications among TTIs, the government has established TVET Council which is responsible for developing standardized curricula and certifications across all TTIs in the country.

Arigye (2017) observes that government funding and quality control for TTIs significantly determines the quality of training in the institutions. Government regulations of TTIs enhance the quality of training by ensuring that only accredited TTIs that are well-equipped with sufficient training facilities are allowed to operate and offer training to students. Thus the measures put in place by the government of Kenya to regulate TTIs may significantly enhance the quality of training in TTIs.

4.5.2 Influence of Government funding and quality control on Student Participation in TTIs

Pearson's correlation analysis was used to determine the influence of government funding and quality control facilities on the participation of students in TTIs as shown in Table 4.15:

Table 4.15: Influence of Government funding and quality control on Student Participation in TTIs

		Students Participation in TTIs	Government funding and quality control to Students	Government funding and quality control to TTIs
Students Participation in TTIs	Pearson Correlation	1	.766**	.532**
	Sig. (2-tailed)		.000	.238
	N	186	186	186
Government funding and quality control to Students	Pearson Correlation	.766**	1	
	Sig. (2-tailed)	.000		
	N	186	71	
Government funding and quality control to TTIs	Pearson Correlation	.532**	.421**	1
	Sig. (2-tailed)	.000	.000	
	N	186	186	186

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

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

Table 4.15 shows that government funding and quality control for students in TTIs has a strong

positive correlation with students' participation in TTIs as shown by a coefficient correlation of 0.766 ($p=0.000<0.05$). Government funding and quality control to TTIs has a strong positive

correlation with student participation in TTIs as shown by a coefficient correlation of 0.532 ($p=0.000<0.05$). The p-values are less than the significant level of 0.05 which implies that government funding and quality control positively and significantly influence student participation in TTIs.

TTIs Trainers' Adequacy and Qualifications

The third objective of this study was to establish the influence of TTIs trainers' adequacy and qualifications on students' participation rates in TTIs. The researcher therefore sought to establish the adequacy of trainers in the TTIs and if they possessed the necessary qualifications. Correlation analysis was conducted to determine the influence of adequacy and qualification of trainers on students' participation in TTIs. The findings are presented in the following sections:

Adequacy of Technical Trainers in TTIs

To establish the adequacy of trainers, principals were required to indicate if they had sufficient technical trainers in their respective institutions. All the 3 principals indicated that that there was shortage of teachers across different courses/departments as shown in Table 4.16:

Table 4.16: Shortage of Technical Trainers in TTIs

Institution	Course/Department	Number of Trainers
Endebess Technical Training Institute	Medical Engineering	1
	Mechanical Production Engineering	1
	Analytical Chemistry	1
	Applied Biology	1
	Building and Construction Technology	1
	Welding & Fabrication	1
Total		**6**
Cherangany Technical & Vocational Institute	Information & Communication Technology	1
	Building & Construction Technology	1
	Fashion and Design	1
	Plumbing	1
Total		**4**
Kiminini Technical & Vocational Institute	Automotive Engineering	2
	Building & Construction Technology	1
	Electrical Engineering	1
	Cosmetology	1
Total		**5**

Table 4.16 shows that there is a shortage of 15 technical and vocational trainers across the three TTIs in Trans Nzoia County. In situations where there is a shortage of trainers, the few that are available are likely to be overwhelmed by work as they may have to take on extra classes to make up for the shortage of trainers. This may adversely affect their ability to deliver quality instructions due to tiredness and work burnout.

According to Tondeur*et al.,* (2019), adequacy of trainers in TTIs significantly influences students' perceptions of the quality of TTIs. Students perceive TTIs with adequate trainers as offering high-quality training and are therefore likely to enrol in these institutions compared to

TTIs with inadequate trainers. Veeraraghavan (2022) observes that students who have enrolled in institutions with inadequate trainers are likely to drop out due to insufficient support and attention from the trainers. The influence of an adequate number of trainers is further emphasized by Mkala, (2018) who established that an adequate number of trainers in proportion to the number of trainees in a class is associated with better student performance. Therefore, TTIs in Trans Nzoia County have insufficient technical trainers which may affect the delivery of quality training in the courses that trainers are missing.

Professional Training of Technical Trainers

Trainees and Trainers were therefore required to indicate if they had relevant professionaltraining in the field that they were teaching; if the trainers were registered and licenced by the TVET Authority; if they had skills and experience in pedagogy (methods and practice of teaching) as shown in Table 4.17 and 4.18:

Table 4.17: Professional Training of Technical Trainers

Education Level	Frequency	Percentage (%)
Degree in Automotive Engineering	2	10.5%
Degree in Medical Engineering	2	10.5%
Degree in Electrical and Electronic Engineering	3	15.8%
Degree in ICT	3	15.8%
Higher National Diploma in Automotive Engineering	1	5.3%
Higher National Diploma in Electrical Engineering	1	5.3%
Diploma in Fashion and Design	3	15.8%
Diploma in Building & Construction Technology	4	21.1%
Total	**19**	**100%**

Table 4.17 shows that majority of trainers in TTIs in Trans Nzoia County had professional training in their various field of specialization. According to the State Department of Vocational and Technical Training, technical trainers are required to have a diploma, a Higher National Diploma (HND) or a degree in their respective field of specialization to be employed as technical and vocational trainers in different TVET institutions. This shows that the trainer had the required qualifications to teach in TTIs. Thus TTIs in Trans Nzoia have qualified Technical Trainers with the necessary background training in their respective fields of specialisation. This enhances their ability to deliver quality instructions to trainees.

Macharia *et al.*, (2020) argue that a combination of adequate trainers with professional background training is required to enhance the quality of training in TTIs and the delivery of quality instructions to students. Qualifications of trainers play a significant role in the enrolment and participation of students in TTIs. According to Habler *et al.*, (2021), trainers with a professional training background report higher rates of the student participation rate in their classes as they are perceived to provide quality instructions to students. Similar observations were made by Klees *et al.*, (2017) who observed that trainers who had undergone teacher professional development training reported higher levels of student satisfaction and participation in their courses. Therefore, professional training of technical trainers in their various fields of specialization enhances the quality of training among TTIs in Trans Nzoia County.

In addition to their training, technical trainers were also required to indicate if they are licensed by the TVET authority and if they have training in pedagogy as shown in Table 4.18:

Table 4.18: Licensing and Pedagogy Skills of Technical Trainers

Qualification	Frequency	%
I am registered and licensed by the TVET authority	13	68.4%
I have training in pedagogy (methods and practice of teaching)	6	31.6%.

Table 4.18 indicates that the majority (68.4%) of technical trainers in TTIs in Trans Nzoia County are registered and licensed by the TVET Authority. However, it is only 31.6% who have undergone training in methods and practice of teaching. Therefore the majority of technical trainers in TTIs in Trans Nzoia are licensed by the TVET Authority. Whereas the trainers have professional training in their field of specialization, they lack skills in methods and practice of teaching which may affect their ability to effectively deliver content to trainees. According to theState Department of Vocational and Technical Training, key responsibilities of technical and vocational trainers include undertaking training in their field of specialization; preparing learning materials and schemes of work; setting and marking exams; conducting research and supervising trainees' projects and practical work. Hence in addition to their professional training, technical trainers also need to be skilled in pedagogy. Therefore, a lack of training in pedagogy among the majority of technical trainers in TTIs in Trans Nzoia may affect their ability to deliver content to trainees.

Influence of Adequacy Qualified Trainers on Student Participation in TTIs

Pearson's correlation analysis was used to determine the influence of adequacy and qualification of trainers on the participation of students in TTIs as shown in Table 4.19:

Table 4.19: Influence of Adequacy of Qualified Trainers on Student Participation in TTIs

		Students Participation in TTIs	Adequacy of Trainers	Professional Training	Licensing and Registration	Pedagogy Skills
Students Participation in TTIs	Pearson Correlation	1	.822**	.663**	.580**	.707**
	Sig. (2-tailed)		.000	.663	.480	.000
	N	186	186	186	186	186
Adequacy of Trainers	Pearson Correlation	.822**	1			
	Sig. (2-tailed)	.000				
	N	186	186			
Professional Training	Pearson Correlation	.663**	.481	1		
	Sig. (2-tailed)	.000	.000			
	N	186	186	186		
Licensing and Registration	Pearson Correlation	.580**	.410	.619**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	186	186	186	186	
Pedagogy Skills	Pearson Correlation	.707**	.707**	.343	.481	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	186	186	186	186	186

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

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

Table 4.19 shows that the adequacy of technical trainers has a strong positive correlation with student participation in TTIs (r=0.822; p=0.000<0.05); trainers' professional qualifications has a strong positive correlation with student participation in TTIs (r=0.663; p=0.000<0.05); licensing and registration of trainers is positively has a strong positive correlation with student participation in TTIs (r=0.580; p=0.000<0.05); Trainers pedagogy skills have a strong positive correlation with student participation in TTIs (r=0.707; p=0.000<0.05). P-values are less than the

significance level of 0.05 hence the correlation is statistically significant. This implies that adequacy of qualified trainers have positively and significantly influences participation of students in TTIs.

Corporate Support to Technical Training Institutions

The fourth objective of this study was to examine the influence of corporate support on the participation of students in TTIs. Trainees were required to indicate if they had received any support from corporates; principals were required to indicate support provided to their respective TTIs; and trainers were required to indicate the level of agreement with statements on support provided by corporate to TTIs.

Corporate Support to TTIs

Interviews conducted with the principals indicated that TTIs in Trans Nzoia County had not received any support from corporates. Trainees indicated that they had not received any form of support from corporates. This was corroborated by TTIs trainers as shown in Table 4.20:

Table 4.20: Corporate Support to TTIs

Statement	1		2		5		Mean
	N	%	N	%			
Corporates have funded the construction of physical facilities for training in the institutions	157	84.4%	29	15.6%			1.047
Corporates have donated equipment to be used for practical lessons in the institutions	155	83.3%	31	16.7%			1.063
Corporates provide scholarships to some of the TTI trainees	134	72.1%	52	27.9%			1.190
Corporates have provided internships and opportunities for attachments for TTI trainees	118	63.4%			68	36.6%	2.142
Aggregate Likert Score							**1.360**

Findings in Table 4.20 indicate that 84.4% of the trainers and trainees strongly disagreed that corporates have funded the construction of physical facilities in their respective institutions while 15.6% disagreed. Majority of the trainers and trainees (83.3%) strongly disagreed that corporates have donated equipment to be used for practical lessons in the institutions in comparison to 16.7% who disagreed; 72.1% strongly disagreed that corporates provide scholarships to some of the TTI trainees compared to 27.9% who disagreed. It is only 36.6% of trainers and trainees who indicated that corporates have provided internships and opportunities for attachments for TTI trainees in comparison to 63.4% who strongly disagreed.

An aggregate Likert score of 1.360 indicates that the respondents strongly disagreed that TTIs in Trans Nzoia had received any form of support from corporates. This therefore implies that TTIs in Trans Nzoia County have not received any support from corporates. This information was corroborated by the principals who indicated that even though corporates had not provided any form of support to TTIs in Trans Nzoia, support from corporates is instrumental in supplementing resources from the government especially when funding from the government is not sufficient to cater to all the needs of the institutions. Similar observations were made by another principal who observed that his institution had not received any assistance from corporates. According to another principal, the only support provided to the institutions was through provision of attachments and internships from some of their students.

According to Zhang and Cheng (2019) support provided by corporates enhances participation into TTIs by providing resources to support students; improving the state of facilities andequipment in the institution and hire better trainers. This ensures that more students are able to enrol and complete training in TTIs. Similar observations were made by Morley (2019) and Bussell (2020) who observe that corporate support provides financial resources that can be used to improve the quality of TTIs, which in turn attracts more students enhancing their participation in TTIs. Thus, there is a need for TTIs in Trans Nzoia to partner with various corporates toenable them get support from corporates.

4.7.1 Influence of Corporate Support on Student Participation in TTIs

Pearson's correlation analysis was used to determine the influence of government funding and quality control on participation of students in TTIs as shown in Table 4.21:

Table 4.21: Influence of Corporate Support on Student Participation in TTIs

		Students Participation in TTIs	Corporate Support
Students Participation in TTIs	Pearson Correlation	1	.851**
	Sig. (2-tailed)		.000
	N	186	63
Corporate Support	Pearson Correlation	.851**	1
	Sig. (2-tailed)	.000	
	N	186	186

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

Table 4.21 shows that corporate support has a positive correlation with students' participation in TTIs. The p-value of 0.000 is less than the significance level of 0.05. Hence, corporate support has a positive and significant effect on student participation in technical training institutions.

Students' Participation in Technical Training Institutions

This study also sought to establish participation in TTIs. Statistics were therefore sought from the principals on students enrolled in their respective TTIs. However, the principals were notable to provide data on completion in their respective institutions. This data is presented in the subsequent subsections:

Enrolment of Students in TTIs

Enrolment rates was determined based on statistics provided by the principals on the number of students enrolled in the TTIs for the last five years from 2019 to 2023 Table 4.22 indicates the

number of students enrolled across the TTIs in Trans Nzoia County.

Table 4.22: Enrolment of Students in TTIs

Year	Endebess	Kiminini	Cherangany
2019	452	35	
2020	658	167	
2021	856	235	31
2022	1199	407	47
2023	1375	531	61

Table 4.22 shows that there has been a steady increment in the number of students enrolling in TTIs in Trans Nzoia for the last 5 years across all the three institutions. The number of students enrolled in Endebess has tripled from 452 in 2019 to 1375 in 2023. The number of students enrolled in Kiminin TTI has grown tremendously from 35 in 2019 to 531 in 2023. Cherangany TTI was established recently and does not have a higher population. However, the institution hasalso seen a rise in the number of students enrolling from 31 in 2021 to 67 in 2023. Endebess TTI constitutes the highest enrolment (69.9%) of students in TTIs in 2023 compared to Kiminini at 26.9% and Cherangany TTI at 3.1%.

The principals attribute the increase in the students enrolling in the institutions to the government's efforts in enhancing access and participation of students in TTIs. The principals indicated that they have had an influx in enrolment of students in their respective institutions since the government put in place measures such as funding students in TTIs through capitation and HELB loan to enhance enrolment and participation of students in TVET institutions. Additionally, support from the county government and the national government CDF in the form

of bursaries has also enhanced the enrolment and participation of students in technical training institutes.

Enrolment Rates of Students in TTIs

The total number of students enrolled in technical training institutions in Trans Nzoia County in 2023 is 1967. Information from the county directorate of vocational and technical training indicates that the total number of students enrolled in technical and vocational training institutions in Trans Nzoia County stood at 11897 in 2022. Students enrolled in TTI s constitute 16.5% of the total enrolment in TVET institutions in the County. Therefore, technical training institutions have an enrolment rate of 16.5%. This is a small proportion of the students enrolled in TVET institutions in Trans Nzoia.

Participation in TTIs by Gender

Participation of students in TTIs was also established based on their gender. Table 4.23 indicates participation in TTIs in Trans Nzoia County based on Gender:

Table 4.23: Participation in TTIs by Gender

Gender	Frequency	Percentage
Male	1482	63.7%
Female	485	36.3%
Total	**2327**	**100%**

Table 4.23 shows that male trainees constitute a significantly large proportion (63.7%) of students enrolled in TTIs in Trans Nzoia County compared to female students (36.3%). This implies that there is gender disparity in access and participation in TTIs in Trans Nzoia County. The disproportionate number of female students enrolled in TTIs also implies that there is low

uptake of technical courses among female students compared to male students. Whereas the recent past has seen a gradual shift with more women venturing into technical courses, this is notthe case in Trans Nzoia County. Hence there is a need to put in place measures that will attract female students to STEM courses.

Regression Analysis

Regression analysis was used to determine the extent to which the significance of the correlation between institutional factors and student participation in public technical training institutions and the extent to which Physical facilities; Government funding and quality control ; Adequacy and Qualification of trainers; and Corporate Support influence student participation in public technical training institutions as presented in the subsequent sections:

Model Summary

The model summary measures the proportion of variability in the dependent variable as explained by the regression line. This model was used to determine the proportion of variability in student participation in TTIs explained by institutional factors as presented in Table 4.24:

Table 4.24: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.882[a]	.779	.763	.33457

a. Predictors: (Constant) Physical Facilities, Government funding and quality control , Adequacy of Qualified Trainers, Corporate Support

Table 4.24 shows that the value of R-square is 0.779. This is the co-efficient of determination which implies that Physical Facilities, Government funding and quality control , Adequacy and

Qualification of Trainers and Corporate Support account for a 77.9% variation in students' participation in technical training Institutions. The remaining 22.1% is explained by other factors that were not examined in this study.

Analysis of Variance

Analysis of variance was used to determine the significance of the correlation between institutional factors and student participation in TTIs as demonstrated in Table 4.25:

Table 4.25: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	22.827	4	5.707	50.983	.000[b]
	Residual	6.492	182	.112		
	Total	29.319	186			

a. Dependent Variable: Students Participation in TTIs

b. Predictors: (Constant), Physical Facilities, Government funding and quality control , Adequacy of Qualified Trainers, Corporate Support

Table 4.25 shows that the F-value is 50.983 and the p-value is 0.000. The p-value of 0.00 is less than the significance level of 0.05 which implies that the regression model is statistically significant. Therefore institutional factors have a significant effect on student participation in technical training institutions.

Co-Efficient of Correlation

Co-efficient of correlation was used to determine the extent to which institutional factors influence student participation in technical training institutions as demonstrated in Table 4.26:

Table 4.26: Coefficients of Correlation

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.924	1.463		1.999	.000
	Physical Facilities	.555	.419	.522	3.707	.000
	Government funding and quality control	.829	.374	.191	2.247	.000
	Adequacy and Qualification of Trainers	.310	.212	.150	3.464	.000
	Corporate Support	.687	.160	.591	4.302	.000

a. Dependent Variable: Students Participation in TTIs

The following equation is derived from Table 4.27:

$Y= 2.924+0.555X_1+0.829X_2+0.310X_3+0.687X_4+e$

The coefficients of correlation in Table 4.23 demonstrate that institutional factors are positively correlated to student participation in technical training institution. When all institution factors are constant, students' participation in TTIs =2.924. Increasing availability of physical facilities in TTIs while keeping other school-related factors constant increases students' participation in TTIs by 0.555 units ($p=0.000<0.05$). Increasing government funding and quality control for TTIs while keeping other school-related factors constant increases students' participation in TTIs by

0.829 units ($p=0.000<0.05$). Increasing the adequacy of qualified technical trainers in TTIs while keeping other school-related factors constant increases students' participation in TTIs by 0.310 units ($p=0.000<0.05$). Increasing corporate support for TTIs while keeping other school-related factors constant increases students' participation in TTIs by 0.687 units ($p=0.000<0.05$)

All the p-values are less than the significance level of 0.05. Therefore, physical facilities, government funding and quality control , adequacy and qualification of trainers and corporate support positively and significantly influence student participation in TTIs.

CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter provides a summary of the findings in accordance with the objectives of the study, conclusions drawn, policy recommendations, and recommendations for further research.

Summary of the Findings

The findings of this study are summarized in accordance with the research objectives:

Influence of Physical Facilities on Students' Participation in TTIs

This study established that availability of physical facilities has a strong positive correlation with participation of students in TTIs as indicated by the correlation coefficient of 0.773 ($p=0.000<0.05$). Adequacy of physical facilities has a strong and positive correlation with participation of students in TTIs as shown by a correlation coefficient of 0.741 ($p=0.000<0.05$). State and Usability of physical facilities has a strong positive correlation with students' participation in TTIs. Therefore availability, adequacy and usability of physical facilities have a positive and significant effect on student participation in TTIs.

This study found out that all the three (3) TTIs in Trans Nzoia County have workshops that are well equipped with modern equipment and materials; classrooms that are well furnished and ICT facilities. However, 2 (66.7%) of the institutions have laboratories that are equipped with modern facilities. None of the institutions has a library that is adequately stocked with relevant course books but instead improvises by storing course books in a designated room. Similarly, the laboratory in one of the institutions is not a fully-fledged modern laboratory but an improvised one. Therefore, TTIs in Trans Nzoia County have not invested all the physical facilities required to provide quality training.

The study also found out that 98.9% of the trainers and trainees in TTIs in Trans Nzoia County indicated that their respective institutions have inadequate classrooms; 98.4% indicated there workshops in their TTIs were very inadequate; 97.3% indicated that equipment and machines in their TTIs were very inadequate; 96.8% of the trainers and trainees indicated that ICT facilities in their institutions were inadequate while 97.3% indicated that laboratories in their TTIs were very inadequate. However 94.6% of the trainers and trainees indicated that course books were adequate while 5.4% indicated that course books in their libraries were very inadequate. This implies that TTIs in Trans Nzoia County do not have adequate physical facilities required to provide quality training to students. However majority of the trainees and trainers indicated that equipment and machines in TTIs in Trans Nzoia County are in in excellent condition while 93.5% indicated that equipment and machines used for practical lessons are modern and up to date with current advancements in technology.

Influence of Government funding and quality control on Students' Participation in TTIs

This study established that government funding and quality control for students in TTIs has a strong positive correlation with students' participation in TTIs as shown by a coefficient correlation of 0.766 ($p=0.000<0.05$). Government funding and quality control to TTIs has a strong positive correlation with student participation in TTIs as shown by a coefficient correlation of 0.532 ($p=0.000<0.05$). The p-values are less than the significant level of 0.05 which implies that government funding and quality control positively and significantly influencestudent participation in TTIs.

This study found out that 98.2% of the students indicated that the government the government has subsidized fees for students in TTIs;; 97.0% of the students indicated that they receive HELB

loan and over half of the students (52.1%) strongly agreed and 47.9% agreed that the county government provides bursaries to students in TTIs. . The government has put in place measures to support the participation of students in TTIs in Trans Nzoia County. Out of the 56, 400 fees for TTIs, the government provide a capitation of KSH. 30, 000 for every student enrolled in TTIs in every quarter of the financial year, and the rest of the fee is financed through the HELB loan which the students receive per semester. However, the government does not consistently disburse the capitation of KSH. 30, 000 as the government sometimes disburses a lesser amount and at times the disbursement is delayed.

In addition to funding the education of students in TTIs, the government has put in place measures to enhance the quality of education in TTIs73.7% of the trainers indicated that the government provides funding to TTIs; 94.7% indicated that the government has established a regulatory authority for all TTIs across the country; 84.2% indicated the government has standardized evaluations and issuance of qualifications across all TTIs; 94.7% indicated the government ensures the recruitment of qualified instructors through registration and licensing of trainers; and the government facilitates training of TTIs instructors on pedagogy.

Influence of Adequacy of Qualified Trainers on Students' Participation in TTIs

This study established that adequacy of technical trainers has a strong positive correlation with student participation in TTIs ($r=0.822$; $p=0.000<0.05$); trainers' professional qualifications has a strong positive correlation with student participation in TTIs ($r=0.663$; $p=0.000<0.05$); licensing and registration of trainers is positively has a strong positive correlation with student participation in TTIs ($r=0.580$; $p=0.000<0.05$); Trainers pedagogy skills have a strong positive correlation with student participation in TTIs ($r=0.707$; $p=0.000<0.05$). This implies that

adequacy of qualified trainers have positively and significantly influences participation of students in TTIs.

However, this study found out that technical training institutions have a shortage of 15 technical trainers in the various courses that they offer. Endebess TTI had a shortage of 6 trainers; Cherangany TTI had a shortage of 4 trainers; and Kimini TTI had a shortage of 5 trainers. Additionally, TTIs in Trans Nzoia have qualified Technical Trainers with the necessary background training in their respective fields of specialisation. However, it is only 31.6% who have undergone training in pedagogy (methods and practice of teaching).

Influence of Corporate Support on Students Participation in TTIs

This study established that corporate support has a positive correlation with students' participation in TTIs. The p-value of 0.000 is less than the significance level of 0.05.This study found out that corporate support is instrumental in supplementing resources from the governmentand plays an instrumental role in supporting TTIs especially when funding from the government is not sufficient to cater for all the needs of the institutions. However, corporates have not provided any support to technical training institutions in Trans Nzoia County. The principals indicated that their respective institutions had not received any support from corporates. TTIs students on the other hand indicated that they had not received any form of support from corporates.

Participation of Students in Technical Training Institutions in Trans Nzoia County

The study found out that the current enrolment of students in TTIs in Trans Nzoia County is 1967. Endebess TTI constitutes the highest enrolment (69.9%) of students in TTIs in 2023 compared to Kiminini at 26.9% and Cherangany TTI at 3.1%. Technical training institutes in Trans Nzoia have had a steady and tremendous increase in the number of students enrolling in

the institutions from 2019-2023 with the population tripling is some of the institutions. The institutions have had an influx in enrolment of students in their respective institutions since the government put in place measures such as funding students in TTIs which has enhanced enrolment and participation of students in technical training institutes. However, there is gender disparity in access and participation in TTIs in Trans Nzoia County as male trainees constitute a significantly large proportion of students enrolled in TTIs in Trans Nzoia County compared to female students. Further, technical training institutions have an enrolment rate of 16.5%. This isa small proportion of students enrolled in TVET institutions in Trans Nzoia County.

Conclusions of the Study

The following conclusions are drawn based on the findings of this study:

Technical training institutions in Trans Nzoia County have had a steady and tremendous increase in the number of students enrolling in the institutions from 2019-2023. The institutions have the highest enrolment rate of students among all TVET institutions in Trans Nzoia County. Endebess TTI constitutes the highest enrolment of students in TTIs compared to Kiminini and Cherangany TTI. However, there is gender disparity in access and participation in TTIs in Trans Nzoia County as male trainees constitute a significantly large proportion of students enrolled in TTIs compared to female students.

TTIs in Trans Nzoia County do not have all the physical facilities required to provide quality training. Even though the institutions have workshops that are well equipped with modern equipment and materials; classrooms that are well furnished; and modern ICT facilities, one of the TTI does not have a laboratory and none of the TTIs has a library.

TTIs in Trans Nzoia County have modern equipment and machines that are in the excellent condition required to provide training that is relevant to the modern workplace and produce

graduates who are skilled and adequately prepared to operate modern equipment. However, these facilities are insufficient as the institutions have had an influx of students without a corresponding increase in facilities.

This study found out that the government has put in place measures that have enhanced access to and participation of students in TTIs in Trans Nzoia County through the provision of capitation for each student, loans, and bursaries. However, the government does not consistently disburse the capitation; sometimes a lesser amount is disbursed and at times the disbursement is delayed. The government has also funded the construction of physical facilities; provided equipment and machinery; and put in place measures to enhance the quality of training in TTIs.

Whereas technical trainers in technical training institutions in Trans Nzoia County have professional training in their field of specialization, they lack skills in methods and practice of teaching (pedagogy) which may affect their ability to effectively deliver content to students. The institutions also have a shortage of technical trainers in various courses that they offer.

This study finally concludes that corporates have not provided any support to technical training institutions in Trans Nzoia County.

Recommendations of the Study

1. The National government and the County Government of Trans Nzoia provide funds for the construction of essential facilities that are lacking or insufficient in the TTIs and ensure these institutions are equipped with sufficient equipment, tools, and machinery forpractical lessons.
2. The national government ensures that it consistently disburses the 30, 000 capitation for all students enrolled in TTIs on time.

3. The State Department of Technical and Vocational Training identify technical trainers that are lacking in various courses in the TTIs and facilitate their recruitment to address the shortage of trainers.
4. The State Department of Technical and Vocational Training ensure that all trainers in TTIs undergo training in pedagogy.
5. Technical training institutions in Trans Nzoia seek out partnerships with corporates in the county to provide attachment and internships to their students.
6. Corporates in Trans Nzoia County to support TTIs through a donation of equipment and machinery and funding construction of physical facilities

Recommendations for Further Studies

1. This study established that there is gender disparity in enrolment and participation of female students in TTIs in Trans Nzoia and therefore recommends an investigation into the factors influencing enrolment and participation of female students in TTIs.
2. This study also recommends that a similar study be conducted to establish factors that enhance or limit the enrolment and participation of students in TTIs in other counties.
3. The study further recommends an examination of the influence of inclusive education in TTIs in Trans Nzoia County. The researcher observed that the physical facilities in the TTIs were not modified to accommodate students with disabilities.

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APPENDICES

Appendix I: Letter of Introduction

University of Nairobi
College of Education and External Studies,
Department of Educational Administration & Planning
P. O. Box 30197
Nairobi

To: The Head of the Institution,

Dear Sir/ Madam,

RE: REQUEST TO COLLECT DATA

I hereby apply to be granted permission for the above. I am a postgraduate student at the aforementioned university, and my research focuses on the *institutional factors that influence student participation rate inTechnical Training Institutions in Trans Nzoia County*. Being among the only 3 TTIs in the County, your Institutions were selected to participate in the study. The principals, tutors', and students' will be involved in the study as participants. Your assistance is greatly appreciated.

Yours faithfully,

Velmah Lung'ahi Indiazi

Appendix II: Questionnaire for the Students

The objective of this Questionnaire is to collect data on "***Influence of Institutional factors on Students' Participation Rates in Public Technical Training Institutes in Trans Nzoia County, Kenya***". Kindly read the items carefully and provide a response that best represents your opinion. To maintain confidentiality, do not indicate your name on the questionnaire. The questionnaire has several sections. Please answer accordingly with a tick or by filling the provided gaps.

SECTION A: DEMOGRAPHIC DATA

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

2. What is your age? (a) 18 – 20 years [ ] (b) 21 – 23years [ ] (c) 24- 26 years [ ]

4. Which course are you undertaking?

…….

5. Why did you choose the above course?

(a) It was my area of interest [ ]

(b) It was recommended by my parent/ guardian [ ]

(c) I did not qualify for the course of my interest [ ]

(d) It has high demand in the labor market [ ]

SECTION B*:* PHYSICAL FACILITIES AND STUDENT PARTICIPATION IN TTIs

6. Indicate adequacy of physical facilities in institutions using a scale of 1-5 where 1=Very Inadequate; 2=Inadequate; 3=moderately adequate; 4=Adequate and 5=Very Adequate:

Statement	**Very Inadequate**	**Inadequate**	**Moderately adequate**	**Adequate**	**Very Adequate**
Classrooms that are furnished with sufficient furniture					
Workshops					
Equipment; tools and machines in all the courses/departments					
ICT facilities					
Laboratories					
Relevant course books in all the courses offered					

7. Indicate the condition of the equipment used for carrying out practical lessons in your respective TTI

State of Equipment	**TICK**

Excellent Condition (Equipment that is utilized to its full designated capacity without being modified or requiring repairs)	
Good Condition (Modified/repaired equipment that is operating at or near their fully designated capacity and may require minor repairs in the near future to operate effectively)	
Poor Condition (Equipment operating below the designated capacity; requires extensive repairs/replacement of key elements to operate at near full capacity)	
Scrap Condition (Equipment that is that is no longer serviceable; cannot be used to any practical degree regardless of the repairs or modifications that it may be subjected to)	

8. Indicate the state of equipment used for practical lessons in your respective TTI

State of Equipment	**TICK**
Modern and up to date with current technological advancements	
Obsolete and out-dated	

9. How does the availability of the physical facilities within the institution influence enrolment, retention and completion of students in the institution?

……
……
……

SECTION C: GOVERNMENT FUNDING AND QUALITY CONTROL AND STUDENT PARTICIPATION IN TTIs

10. Indicate your extent of agreement with statements on support provided by the government to enhance participation of students in Technical Training using scale where1- Strongly Agree (SA), 2- Agree (A), 3- Neutral (N), 4- Disagree (D) and 5-Strongly Disagree (SD) to indicate your level of agreement.

Statement	**SA**	**A**	**N**	**D**	**SD**
The government has subsidized fee for students in TTIs					
Students in TTIs are supported by the HELB Loan and bursaries					
Provision of HELB Loan and bursaries has increased enrolment and participation of students in TTIs					
County government and the National government CDF provides bursaries to students in TTIs					
Fees subsidy, loan and bursaries from the government has increased enrolment and participation of students in TTIs					

9. What other strategies should be implemented by the government to increase student participation in TTIs?

SECTION D: QUALIFICATIONS OF TTIs TRAINERS AND STUDENTS' PARTICIPATION IN TTIS

10. Indicate your extent of agreement with statements on adequacy and qualifications of trainers/instructors in your respective Technical Training using scale where 1- Strongly Agree (SA), 2- Agree (A), 3- Neutral (N), 4- Disagree (D) and 5-Strongly Disagree (SD) to indicate your level of agreement.

Statement	SA	A	N	D	SD
There is a sufficient number of TTI instructor in the institution					
The TTI instructors have the relevant professional background in their respective fields of specialization					
All the TTI instructors are registered and licensed by the TVET authority					
The TTI instructors have skills and practical experience in pedagogy (methods and practice of teaching)					
The government regularly facilitates recruits TTI instructors in all the departments					

SECTION E: CORPORATE SUPPORT AND STUDENTS' PARTICIPATION IN TTIs

11. Indicate your level of agreement with support received from corporates in TTIs:

Statement	SA	A	N	D	SD
Corporates have funded construction of physical facilities for training in the institutions					
Corporates have donated equipment to be used for practical lessons in the institutions					
Corporates provides scholarships to some of the TTI trainees					
Corporates have provided internships and opportunities for attachments for TTI trainees					

Appendix III: Questionnaire for Tutors

SECTION A: DEMOGRAPHIC DATA

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

2. What is your highest level of education?

(a) Diploma [ ]

(b) Higher National Diploma [ ]

(c) Degree [ ]

3. Indicate your background professional training/area of specialization

…….

4. Indicate your experience in teaching in Technical Training Institutions?

(a) Less than one year

(b) 1-2 years [ ]

(c) 3-5 years [ ]

(d) 6-10 years [ ]

SECTION B*:* PHYSICAL FACILITIES AND STUDENT PARTICIPATION IN TTIs

5. 6. Indicate adequacy of physical facilities in institutions using a scale of 1-5 where 1=Very Inadequate; 2=Inadequate; 3=moderately adequate; 4=Adequate and 5=Very Adequate:

Statement	**Very Inadequate**	**Inadequate**	**Moderately adequate**	**Adequate**	**Very Adequate**
Classrooms that are furnished with sufficient furniture					
Workshops					
Equipment; tools and machines in all the courses/departments					
ICT facilities					
Laboratories					
Relevant course books in all the courses offered					

12. Indicate the condition of the equipment used for carrying out practical lessons in your respective TTI

State of Equipment	**TICK**
Excellent Condition (Equipment that is utilized to its full designated capacity without being modified or requiring repairs)	
Good Condition (Modified/repaired equipment that is operating at or near their fully designated capacity and may require minor repairs in the near future to operate effectively)	
Poor Condition (Equipment operating below the designated capacity; requires	

extensive repairs/replacement of key elements to operate at near full capacity)	
Scrap Condition (Equipment that is that is no longer serviceable; cannot be used to any practical degree regardless of the repairs or modifications that it may be subjected to)	

13. Indicate the state of equipment used for practical lessons in your respective TTI

State of Equipment	**TICK**
Modern and up to date with current technological advancements	
Obsolete and outdated	

SECTION C: GOVERNMENT FUNDING AND QUALITY CONTROL AND STUDENT PARTICIPATION IN TTIs

14. Indicate the support provide by the government in your respective TTI.

Form of support	**YES or NO**
The government provides capitation grant for every trainee in the institution	
The government provides funding to TTIs	
The government has established a regulatory authority for all TTIs across the country	
The government has standardized evaluations and issuance of qualifications across all TTIs	
The government ensures recruitment of qualified instructors through registration and licensing of tutors	
The government facilitates training of TTIs instructors on pedagogy (methods and practice of teaching)	

SECTION D: QUALIFICATIONS OF TTIs TRAINERS AND STUDENTS' PARTICIPATION IN TTIS

10. Indicate your extent of agreement with statements on adequacy and qualifications of trainers/instructors in your respective Technical Training using scale where 1- Strongly Agree (SA), 2- Agree (A), 3- Neutral (N), 4- Disagree (D) and 5-Strongly Disagree (SD) to indicate your level of agreement.

Statement	**SA**	**A**	**N**	**D**	**SD**
There is a sufficient number of TTI instructors in the institution					
I have the relevant professional background training in the area that I teach					

I am registered and licensed by the TVET authority					
I possess the skills and practical experience in pedagogy (methods and practice of teaching)					
The government regularly facilitates recruits TTI instructors in all the departments					

SECTION E: CORPORATE SUPPORT AND STUDENTS' PARTICIPATION IN TTIs

11. Indicate your level of agreement with statements on support provided by corporates to your respective institutions to enhance students' participation in TTIs using a scale where1- Strongly Agree (SA), 2- Agree (A), 3- Neutral (N), 4- Disagree (D) and 5-Strongly Disagree (SD) to indicate your level of agreement.

Statement	**SA**	**A**	**N**	**D**	**SD**
Corporates have funded construction of physical facilities for training in the institutions					
Corporates have donated equipment to be used for practical lessons in the institutions					
Corporates provides scholarships to some of the TTI trainees					
Corporates have provided internships and opportunities for attachments for TTI trainees					

Appendix IV: Interview Schedule for Institutional Principals

Interviewer: VelmahLung'ahiIndiazi

Date:

The purpose of this interview is to collect information on **Influence of Institutional Factors 0n Students' Participation Rates in Technical Training Institutes in Trans Nzoia County**.

Please answer the questions to the best of your knowledge.

1. How many students are currently enrolled in your institution?

Provide statistics on the number of students enrolled in your institution for the last 5 years from 2018 to 2023

Year	Number of Students Enrolled
2018	
2019	
2020	
2021	
2022	
2023	

2. Indicate the completion rates of students in your TTI between 2018 and 2023

Year	Completion Rates/Number of students completed their training
2018	
2019	
2020	
2021	
2022	
2023	

3. Describe the availability and adequacy of physical facilities in your TTI (Classrooms; workshops; laboratories; and the library).

4. How does the availability of these physical facilities influence enrolment, transition and completion rates of students in your institution?

5. What are the measures undertaken by the county and national governments to facilitate participation of students in TTIs?

6. Have these measures enhanced participation rates of students within the institute?

7. What measures has the government put in place to enhance quality of learning in TTIs?

8. How would you describe the adequacy and qualifications of trainers/tutors in your TTI?

9. How does the adequacy and qualifications of trainers influence students' participation rate?

10. Which corporates organizations provide support to your TTI?

11. Which projects or programmes were funded by the corporates/what form of support have they provided to your institution?

Corporate	**Support Provided/Project Funded**
1.	
2.	
3.	
4.	

12. Has this support enhanced participation of students in TTIs?

13. In your opinion, what else do you think should be done by the government or corporate organizations to increase participation of students in TTIs

Appendix V: Observation Guide

Observer: VelmahLung'ahiIndiazi

Item Observed	**Yes**	**Adequate**	**Not Adequate**	**No**	**Comment**
1. Availability of classrooms					
2. Availability of workshops					
3. Availability of ICT infrastructure					
4. Availability of workshop equipment					
5. Workshop equipment are up to date					
6. Availability of furniture					
7. Availability of library resources					

Appendix VI: Research Permit

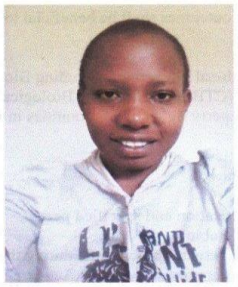
REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **478471**

Date of Issue: **29/April/2023**

RESEARCH LICENSE



This is to Certify that Ms.. VELMA LUNG'AHI INDIAZI of University of Nairobi, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Transnzoia on the topic: Institutional Factors Influencing Students' Participation Rates In Public Technical Training Institutes In Trans-Nzoia County, Kenya. for the period ending : 29/April/2024.

License No: **NACOSTI/P/23/25506**

478471

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix VII: Research Authorization-County Director TVET

REPUBLIC OF KENYA

MINISTRY OF EDUCATION

STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL TRAINING

COUNTY DIRECTOR OF TVET

Telephone: 054-31109
Mobile : 0722843308
Email: tvettransnzoia@gmail.com
When replying please quote:
Ref: No. MOE/TVET/TZ/05/74

Office of The County Director of TVET,
(Trans-Nzoia West Pokot and Turkana counties),
P.O. Box 4126-30200,
KITALE.

Date: 2nd May 2023

The Principals,
Endebess Technical Training Institute,
Kiminini Technical and Vocational College,
Cherengany Technical and Vocational College

RESEARCH AUTIRIZATION

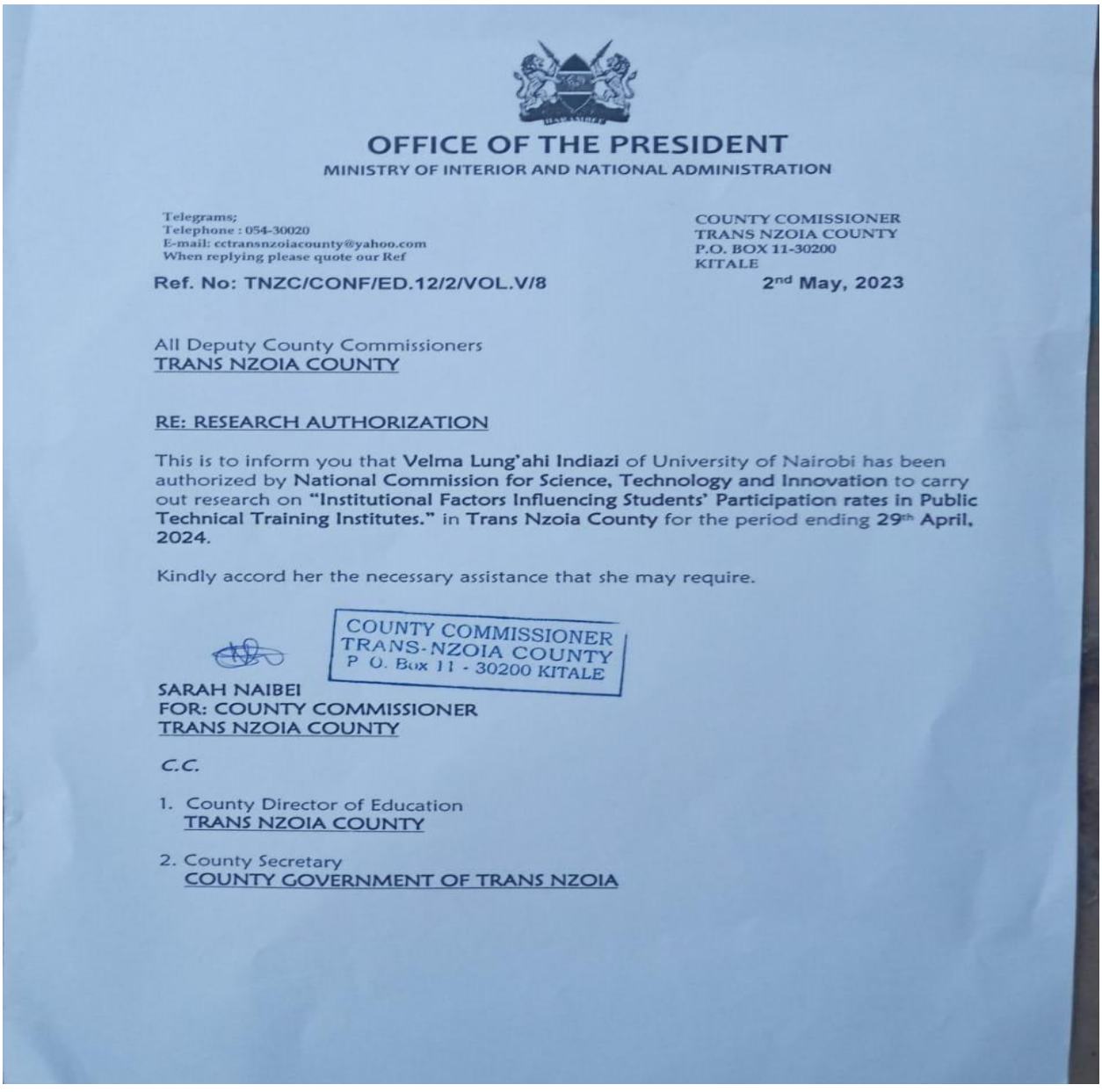
This is to inform you that **Velmah Lunga'ahi Indiazi** from University of Nairobi has been authorized by **National Commission for Science, Technology and Innovation** to carry out research on **'Institutional Factors Influencing Students Participation Rates in Public Technical Training institutes in Trans- Nzoia County, Kenya'** for the period ending: **29th April 2024.**

Kindly accord her necessary assistance that she may require.

DIRECTOR TVET (TRANS-NZOIA W. POKOT & TURKANA)
TEL: 0711428888
02 MAY 2023
P.O. Box 4126-30200 KITALE

Michael Kibiwot Rugut
COUNTY DIRECTOR OF TVET

Appendix VIII: Research Authorization-County Commissioner



OFFICE OF THE PRESIDENT
MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

Telegrams;
Telephone : 054-30020
E-mail: cctransnzoiacounty@yahoo.com
When replying please quote our Ref

COUNTY COMISSIONER
TRANS NZOIA COUNTY
P.O. BOX 11-30200
KITALE

Ref. No: TNZC/CONF/ED.12/2/VOL.V/8

2nd May, 2023

All Deputy County Commissioners
TRANS NZOIA COUNTY

RE: RESEARCH AUTHORIZATION

This is to inform you that **Velma Lung'ahi Indiazi** of University of Nairobi has been authorized by **National Commission for Science, Technology and Innovation** to carry out research on **"Institutional Factors Influencing Students' Participation rates in Public Technical Training Institutes."** in **Trans Nzoia County** for the period ending **29th April, 2024.**

Kindly accord her the necessary assistance that she may require.

COUNTY COMMISSIONER
TRANS-NZOIA COUNTY
P. O. Box 11 - 30200 KITALE

SARAH NAIBEI
FOR: COUNTY COMMISSIONER
TRANS NZOIA COUNTY

C.C.

1. County Director of Education
   TRANS NZOIA COUNTY
2. County Secretary
   COUNTY GOVERNMENT OF TRANS NZOIA