STRATEGIES AND CHALLENGES FOR PRINCIPALS IN ENHANCING ACCESS, RETENTION AND PROMOTION OF QUALITY EDUCATION IN TECHNICAL TRAINING INSTITUTES IN NAIROBI COUNTY, KENYA

BY

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN EDUCATIONAL ADMINISTRATION

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND FOUNDATIONS

MASENO UNIVERSITY

DECLARATION

DECLARATION BY THE CANDIDATE

This thesis is my original work and has not been presented in any other university.

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ACKNOWLEDGEMENT

I would wish to express my appreciation to my co supervisors Prof. Enose M.W. Simatwa for his valuable advice, encouragement and guidance on writing of this thesis. I also thank the late Professor T.M.O. Ayodo for his professional guidance throughout this work. I also wish to appreciate my coworkers for sharing research path with me.

Finally, I appreciate the role played by my spouse Hellen Kerubo and daughter Ivy Moraa for their moral support throughout the period I carried out this study. I thank Maseno University for offering me opportunity to undertake research work. It is the collective and individual efforts of all these people and others whose names do not appear here that led to the successful completion of this work.

DEDICATION

This thesis is dedicated to my dear parents Mr. and Mrs. Joshua Kimwomi, my wife Hellen Kerubo, and daughter Ivy Moraa.

ABSTRACT

Studies worldwide have revealed that principals of Technical Training Institutes use different strategies to enhance students' access, retention and qualities of education. In some TTIs, the strategies yielded the desired outcomes while in some cases the desired outcomes have not been realized, amid challenges. Statistics from Nairobi County indicate an enrolment decline from 8643 to 6331 in 2010-2014, a 26.75% enrolment drop; while nationally, an enrolment decline of 2.62% over the same period was recorded. The national pass rate for TTI graduates declined from 44349 to 31089 in 2010-2014, a 29.9% drop while in Nairobi County the pass rate dropped from 7683 to 4934 in 2010-2014 a 35.8% drop and an indicator of declining quality of education in TTIs. The purpose of this study was to establish the strategies used and challenges for principals in enhancing access, retention and quality education in TTIs in Nairobi County. Objectives of the study were to; establish strategies and challenges faced by principals in enhancing access; establish strategies and challenges used for principals in retaining students and establish strategies and challenges used for principals in enhancing quality of education. A conceptual framework showing strategies and challenges as independent variables and; access, retention and quality of education as dependent variables was used. Descriptive research design was adopted. Target population was 437. A sample size of 239 respondents (3 Principals, 23 HoDs, 191 lecturers and 22 Student Council Members) were selected through saturated and random sampling techniques. Questionnaire and interview schedule were used to collect data. Reliability coefficients of research instruments for Student Council Members was 0.78, HODs 0.81 and lecturers 0.74 at set p-value of .05. Validity of instruments was determined by experts in educational administration. Quantitative data was analyzed using frequency counts, percentages and means while qualitative data was transcribed and analyzed in emergent themes and sub themes. The study established that use of former and on-going students was high with a mean ratings of 4.2 and 3.5 respectively. Frequency of students' enrolment termly 3.9 and advertisement at secondary schools 4.0 enhanced access. Orientation during admission 3.2, financial assistance to students'4.7, teaching-learning resources 4.6 and affordable fees 4.8 enhanced retention. Employment skills 4.5, benchmarking 4.0, pass rate 4.5, teacher class attendance 4.8, laboratory equipment 4.1, textbooks 4.5, optimal use of facilities 3.9 enhanced quality of education. Challenges faced in enhancement of access, retention and quality of education included communication 4.3, orientation 3.5, placement services 4.0 and affordability of accommodation 4.5. The study concluded that principals used a number of strategies in enhancing students' access, retention and improvement of quality education and in the process faced some challenges. The study recommended that stakeholders be more involved in technical education so as to achieve desired goals. The findings are significant in providing information to TTIs' stakeholders on strategies used and challenges faced by principals in enhancing access, retention and quality education for purposes of policy review, formulation and implementation.

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ABBREVIATIONS AND ACRONYMS

BOM	-	Board of Management
DTTIS	-	Director of Technical, Vocational Education and Training
GOK	-	Government of Kenya
HQs	-	Headquarters
KATTI	-	Kenya Association of Technical Training Institutions
KICD	-	Kenya Institute of Curriculum Development
KIPPRA	-	Kenya Institute for Public Policy Research and Analysis
KNEC	-	Kenya National Examination Council
KNUT	-	Kenya National Union of Teachers
KTTC	-	Kenya Technical Teachers College
KUPPET	-	Kenya Union of Post Primary Education and Training
MOEST	-	Ministry of Education, Science and Technology
NITA	-	National Industrial Training Authority
NPCs	-	National Polytechnics
PTA	-	Parents Teachers Association
SCM	-	Student Council Members
TEP	-	Technical Education Program
TSC	-	Teachers Service Commission
TTIs	-	Technical Training Institutes
VTC	-	Vocational Training Centres

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is universally recognized as an important tool for development (Gatwiri, 2011) and every country invests in education, and Kenya is no exception. Most education systems and particularly in the developing world, give great emphasis on the development of the youth. Consequently, educational plans and objectives are geared towards producing youth who will be self-reliant and who will contribute intellectually and materially to the development of their immediate communities and the nation as a whole. Education reform efforts in less industrialized countries have aimed at making education an effective vehicle for national development (Abagi & Odipo, 1997).

According to Lawal (2013), national development is an exploitation and utilization of both human and material resources to improve the lots of a nation which involves the improvement of the social welfare of the people of that nation (Lawal, 2013). Social welfare should play a major role in contributing to the effective mobilization and deployment of human and material resources of the country to deal successfully with the social requirements of change, thereby participating in nation-building hence national development (UN, 1967). A key indicator of national development, as postulated by the Ghana News Agency (GNA) citing Abeiku (2012), is the acquisition of basic and relevant technical skills by citizens, particularly youth, for self-employment and wealth creation in this era of globalization. Abeiku (2012) further observes that this can only be achieved through the availability of adequate Technical Vocational Education and Training (TTIs) which are charged with the

mandate of offering technical training and nurturing technical skills among the youth. As such, the need for relevant and basic technical skills and knowledge among the youth has never been greater.

In order to be at par with the global development patterns, most governments have aligned their education systems to their national development 'need', specifically to impart basic and relevant technical skills in their youth with the sole aim of achieving industrialization. One avenue through which technical skills are imparted in the youth is through the provision of technical education in various technical schools. The history of Technical and Vocational Education and Training (TTIs) in Kenya is as old as the formal education. The British government used this type to produce critical human resources needed to develop the then Kenya colony. The Koech Commission of 1999 observed that the country needed construction workers, home, office furniture, and agricultural workers. Sifuna (1992) observes that industrial training in basic skills had started by 1921. Since then, and particularly during the post-independence era, there has been a tremendous growth and development of TTIs as a result of direct government intervention and involvement, as well as through community participation, (Simiyu, 2009).

Despite TTIs in Kenya having experienced considerate growth in the post-independence era, TTIs is yet to produce adequate and skilled middle level human resource required to meet the demands for national development (RoK, 2012). Kenya's unemployment rates among youth is estimated to be at 80% of the youth population while at the same time, Kenya lacks critical middle level skills in the immediate and emerging labour market to meet the demand side needs of the employment equation (African Development Fund (ADF), 2015). Statistics have

indicated that student enrolment, retention and completion in TTIs in Kenya have been declining (Dahl, 2003; Simiyu, 2007). The Kenya National Bureau of Statistics (KNBS, 2012) statistics indicate that the rate of enrolment into TTIs in Kenya had declined over the decade between 1999 and 2009. The Figure 1.1 below illustrates this fact. The report also shows that the enrolment for TTIs within Nairobi County has been declining over the same period.

Figure 1.1 illustrates this.

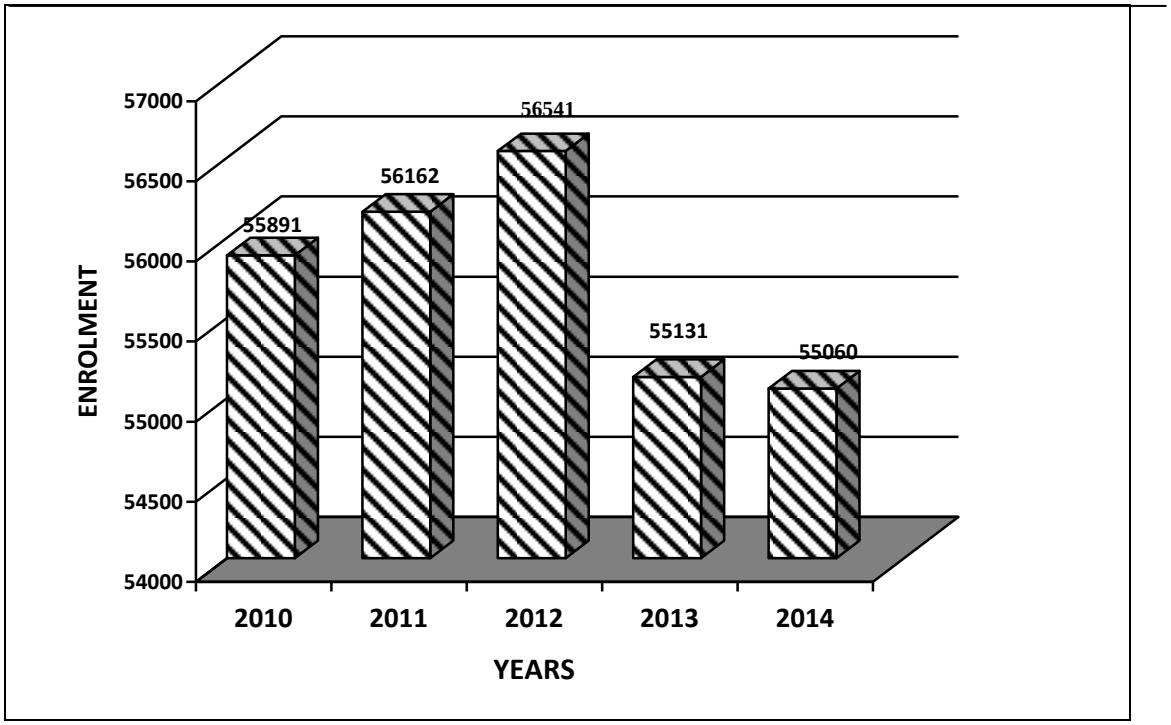

Figure 1.1: National Enrolment Statistics for TTIs between 2010 and 2014

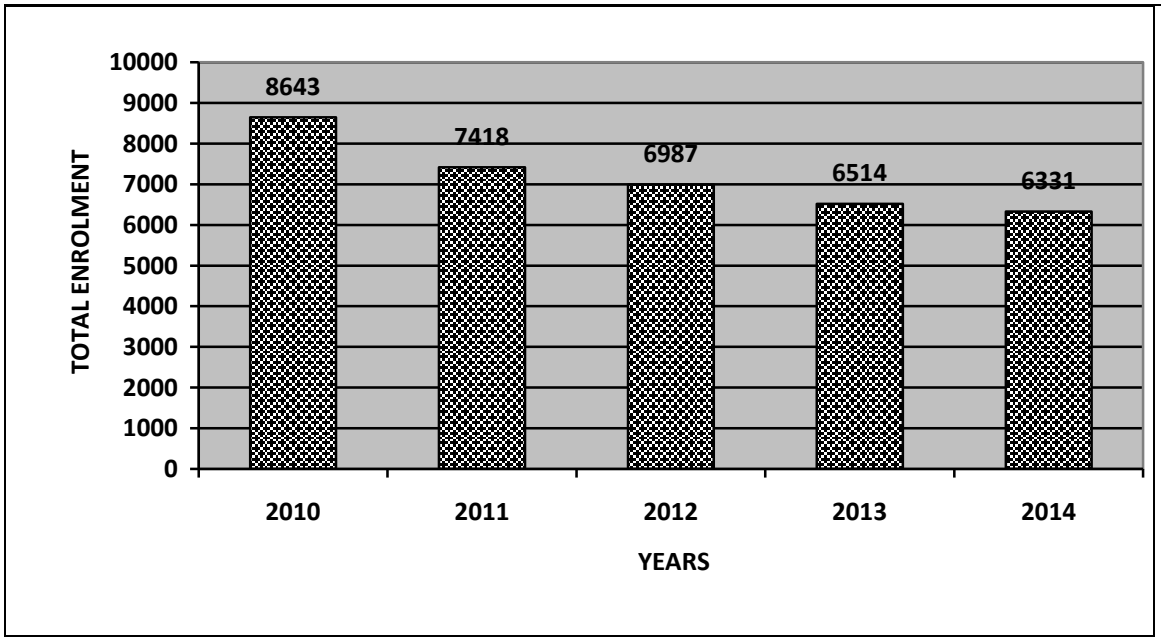

Figure 1.2: Enrolment Statistics for TTIs in Nairobi County between 2010 and 2014

Source: TSC Strategic Plan (2014)

The general capacity in the three TTIs in Nairobi County at the time of the study as 1820, 4500 and 5000 respectively hence the enrollments represented on Figure 1.2 were below the capacity.

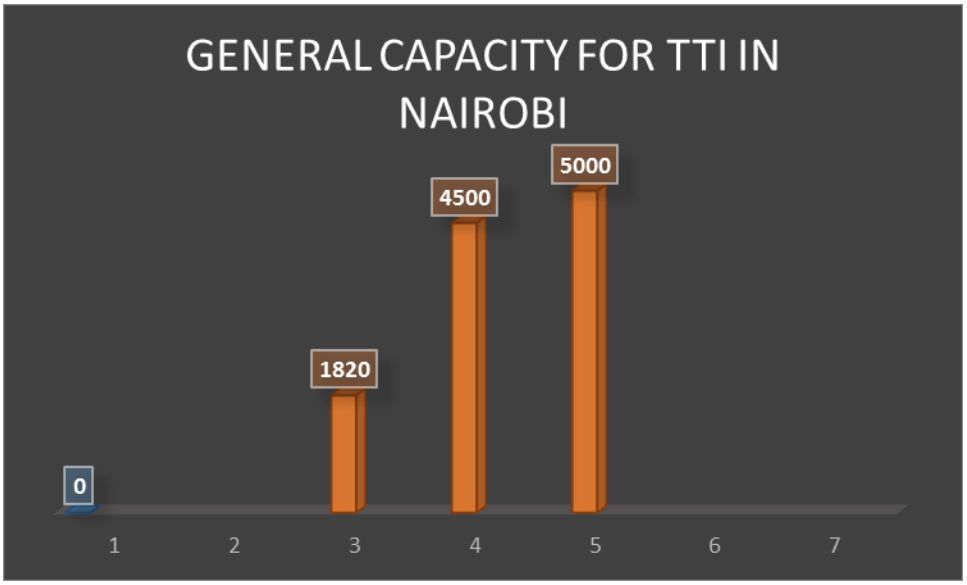

Figure 1.3: General Capacity for TTIs in Nairobi County

Source: Principals of respective TTIs in Nairobi County (2014)

Studies have indicated that enrolment in TTIs in some countries has been declining (Dahl, 2003; Simiyu, 2007). Falling enrolment, if not checked, may eventually result in a shortage of technology education teachers. Technology education policy-makers and implementers need to examine ways of increasing enrolment in their programmes in order to avoid future breakdowns. In Kenya, while it is evident that there has been a tremendous growth of TTIs during the post-independence era, matters pertaining to access, retention and provision of quality education still remain a major challenge and stakeholders must endeavor to put strategies in place to address these issues. According to the National Education Sector Plan (NESP) 2014 to 2018, primary to secondary education transition rate has improved from 57.3% in 2005 to 73.3% in 2012. This implies that each year, an estimated 480,000 youths are completing secondary school. Of this, only about 30% qualify for University education. This means 70% of the secondary school graduates need to be absorbed in the TTIs system, yet only 10% are currently enrolled in TTIs (ADF, 2015).

Competition to government sponsored institutes from the private sector in Kenya has intensified in the recent past with a majority of the private institutions attracting more students than the former. Hence, the criterion that students apply to select college has drastically changed and now includes a "*peek*" into the internal aspects of the institution they are considering to enroll in (Peterson, 1999). Peterson (1999) notes that as competition intensifies for the brightest students, faculty and physical amenities, among many other aspects, feature more prominently in the decision-making process.

Discenza (1985), Roberts and Higgins (1992) observed from their studies in England, entry requirements, quality of the faculty, type of academic programs, institute's reputation, cost of tuition, availability of financial aid, location of institute, accommodation facilities, academic support facilities, peer review of institution, market needs among others, were among the criterion used by prospective students to decide whether to join an institution or not. Of key interest to the researcher in this case is quality of teaching staff, availability of training facilities, availability of funding/cost of tuition and the market needs/prospects of employment after graduation and their influence on the enrollment, retention and achievement of students in TTIs in Kenya.

Teacher quality has been consistently identified as the most important school-based factor in student access, retention and provision of quality education (McCaffrey, Lockwood, Koretz, & Hamilton, 2003; Rivkin, Hanushek, & Kain, 2000; Rowan, Correnti & Miller, 2002; Wright, Horn, & Sanders, 1997), and teacher effects on student learning have been found to be cumulative and long-lasting (Kain, 1998; McCaffrey et al., 2003; Mendro, Jordan, Gomez,

Anderson, & Bembry, 1998; Rivers, 1999; Sanders & Rivers, 1996). Similarly, research by Farell (2009) in institutions of higher learning points to the prominence of faculty in student access, retention and provision of quality education. Research by Theophilides and Terenzini (1981) earlier indicated that prospective students were likely to conduct a review of the quality of the institution they are likely to join through their peers. On the other hand, a positive faculty attitude combined with mastery of the subject was likely to enhance student satisfaction in class and increase the chances of students persisting to the end (Cuseo, ND; Cross, 1998). It is this satisfaction that current students were likely to share with their peers who intended to join college and were conducting a review of the available institutions. Conor *et al.* (1999) studied the most helpful overall sources of information for college-bound students, and identified current students as a helpful source of information for prospective students as they were ranked 3rd with 9.7% rate after college prospectus and media. Thus, this study also deems faculty members as having a direct influence on student enrollment and retention in the institutions they work for, and eventually student achievement.

Stakeholders, policy makers and principals in TTIs institutions should ensure that faculty has all the required qualities that would attract students to join their institutions and stay to complete their courses. Saret (2007) observes that students do not begin a college course with the intention of dropping out before completing their courses, yet many do. Likewise, Cross, (1998) argues that students, who have frequent contact with faculty members in and out of class during their college years are more satisfied with their educational experiences, are less likely to drop out, and perceive themselves to have learned more than students who have less faculty contact. However, Ngome (2003) observes that the quality of staff in the TVET

institutions sector in Kenya is declining thus affecting their ability to satisfy students and eventually affect their achievement prospects hence eventually leading to dropout. Further, Ngome (2003) argues that TVET institutions are generally unable to attract and retain high caliber academic staff mainly due to the low level of remuneration, which they offer, leading to high staff turnover on average. The researcher opines that principals should be able to put measures in place to attract the most qualified staff and work towards enhancing the satisfaction of the staff members.

Research done in the United Kingdom by Price *et al* (2003) in 2000 and 2001 examined the impact of facilities on student choice of college and established that training facilities such as classes, libraries, computer study rooms, accommodation, food and recreation facilities ranked high among those stated as significant. In Kenya, TTIs greatly rely on government funds allocations for acquisition of infrastructural facilities for training. It is therefore upon the institution managers and principals to ensure that adequate and modern facilities are acquired for their institutions so as to attract more qualified students. However, Ngome (2003) observes that over the past two decades, TVET institutions have continued to receive less financial allocations from the government than the estimated annual expenditure, a trend which has strained the existing resources which are now dilapidated and lack maintenance. Equipment used for training in most institutions is outdated while vital aspects of the training support system are wanting with such areas as library acquisitions being relegated to the periphery with negative impact on the quality of TVET programmes (Ngome, 2003). This has made it harder for principals and other stakeholders to acquire the much needed modern

infrastructural facilities for training, further contributing to the decline in enrolment, retention and provision of quality education for the learners.

Unquestionably, financial aid is critical to many financially underprivileged prospective students and their parents in Sub-Saharan Africa and particularly Kenya today. As college costs continue to rise and institutions face increasing financial pressures, the practice of *"need-blind"* admissions is becoming more and more rare (Alger & Carrasco, 1997). Natasha and Michelle (2011) observe that success in higher education is commonly defined by a student's persistence (i.e., continued enrollment in the institution), progression (i.e., successful accrual of good grades) and timely graduation. Institutions that place a priority on the recruitment and retention of students from underprivileged backgrounds face a difficult burden, knowing that such students will need financial aid in order to enroll and graduate (Natasha & Michelle, 2011). However, for the underprivileged students, all these factors may not play favorably and this will pose a challenge to the institution in which they enroll. Coupled with underfunding constraints for institutions, it is helpful for principals and other stakeholders to consider carefully its overall mission and the contributions it is supposed to make to its community, especially through the provision of scholarships for the financially underprivileged students. Natasha and Michelle (2011) argue that the administration of financial aid to needy students has been shown to facilitate such student success. Principals and managers are therefore advised to set up a funds kitty for *'properly screened needy students'* who have already enrolled so as to sustain them in terms of tuition and accommodation costs thus retaining them to the end of their study periods (Lawal, 2013; Johanson & Adams 2003; Natasha & Michelle, 2011).

Before the TVET programme, the government had made attempts to enhance skill acquisition through the formal school system without much success (Ngome, 2003), hence a need to replace the curriculum with a diversified one. The arguments advanced to rationalize adoption of a diversified curriculum included the need to alter the negative attitude of young people towards manual work and rural livelihood; generate vocational interest; create a better match between the skills learned in school and those needed in the labour market; reduce rural-urban migration and help integrate schools with communities. The Kenya Education System (often referred to as the 8-4-4) was therefore initiated with a multi-track diversified curriculum, which combined academics with the pre-vocational and vocational subjects. This system translated to 8 years of primary school, 4 years of secondary school and 4 years of university training. However, given the fewer universities in Kenya, it was not possible for all students to transit to university, especially for those who did not meet the minimum university entry requirements. It was also not *"psychologically feasible"* for parents, students and the community at large to consider TTIs as an alternative to university since the 8-4-4 system did not factor their existence and many perceived this system as promising a better livelihood devoid of manual work. The perception therefore was that those who failed in secondary school were the only ones who could attend such institutions, further worsening the prospects of TTIs enrollment.

However, over time, TTIs sector has come to prove its critics wrong in that it has the potential of producing graduates who can effectively compete with university graduates. One major challenge that TTIs stakeholders face, however, is the mismatch between the market needs and the curriculum taught in TTIs. As it is today, industries play a peripheral role in

development and implementation of TTIs curricula which exacerbates the mismatch between formal training and requirements of employers. This has further led to the deterioration of the quality of education in TTIs. Sang *et al.* (2012) observes that the quality of training in TVET institutions in Kenya is on the decline. In their study, Sang *et al* (2012) noted that over 85.3% of their respondents observed that the trainers in TTIs were poorly trained and that their institutions lacked adequate and modern facilities. Further, a UNESCO-UNEVOC Country Information report indicates that the quality if technical education in Kenya has been declining over the period 2010 and 2014 as the overall pass rate for graduates declined from 44349 (90.8%) to 31089 (78.1%). In Nairobi County alone, the UNESCO-UNEVOC Country Information Report (UNESCO-UNEVOC, 2014) estimates that the pass rate dropped from 7683 (90.8%) in 2010 to 4934 (78.1%) in 2014 which was an average of 35.8% drop and an indicator of declining quality of education in TTIs in Nairobi County. It is therefore necessary that curriculum designers mandatorily involve the market/industry players so as to have relevant curricula that will enable trainers to impart practical and relevant skills on the learners.

Likewise, Noel (1985) reports that the average grade of college dropouts is no lower than the average grade of those students who persist. He estimates that over 85% of college dropouts are voluntary, i.e., they elect to discontinue their education frequently because they do not perceive the relevance of the curriculum for their personal and professional goals. Cuseo (ND) proposes that curriculum developers, when developing the curriculum for any formal education, should include course goals which are relevant to students' personal lives outside of the classroom, their general (liberal) education, and their future careers. Boyer (1987) also

prods curriculum developers to be sensitive to phrasing course goals or learning objectives in a way that articulates how the course will (a) improve the students' quality of life, (b) have cross-disciplinary significance or transferability to other aspects of students' college education, and (c) contribute significantly to the students' career preparation.

In summary, the World Bank review of Skills Development in Sub-Saharan Africa (Johanson & Adams, 2003) reveals that the existing public TTIs system in Kenya suffers from critical problems including the decline of quality training; lack of relevance to occupational and social realities: under-enrolment; wastage and under-funding. This shows that Kenya faced a difficult future because the importance of skills and adequate training cannot be over-emphasized as it is expertise and technology that differentiates between the developed and developing countries such as Kenya. Principals and other stakeholders should therefore put strategies in place to ensure adequate enrollment, retention and provision of quality education for the enrolled students. These strategies should encompass staff, availability of scholarships/funds for needy students and a relevant and favorable curriculum that will enable the trainees to acquire relevant skills much needed by the industry.

1.2 Statement of the Problem

In spite of the emphasis placed on technical education by the Kenya government, conferences and commissions, enrolment, retention and provision of quality education in TTIs in Kenya has been declining. Principals in the Kenyan TTIs are faced with numerous challenges in enhancing student enrolment, retention and promotion of quality education in the institutes they head. This is evidenced when statistics indicate that the student population

in Technical Training Institutes and TTIs in Kenya is declining. For example, nationally, there was a 2.62% drop in enrolment in TTIs between the years 2010 and 2014 while in Nairobi County alone, there was a 26.75% enrolment drop over the same period. Scholars have alluded that the existing public technical and vocational education training (TTIS) system in Kenya suffers critical problems including the decline of quality; lack of relevance to occupational and social realities, under-enrolment; and under-funding. Unlike in the developed world, where governments and other stakeholders jointly put in place strategies to enhance enrolment, retention and provision of quality education and those strategies are fully implemented, strategies and policy frameworks have been developed in Kenya but minimally implemented. In situations where these strategies are implemented, though partially, very few of them seek to establish and document the enrolment, retention and quality education provision challenges facing TTI management in Kenya.

However, Technical Training in Kenya has experienced moderate growth since independence, TTIs is yet to produce adequate and skilled middle level human resource required to meet the demands for national development This shows that Kenya faces a difficult future because the importance of skills and adequate training cannot be over-emphasized as it is expertise and technology that differentiates between the developed and developing countries such as Kenya. As stated, enrollment rates, retention and provision of quality education in TTIs has been put to question; giving rise to questions regarding the strategies and ability of management in TTIs to enhance enrolment, retention and promotion of quality of skill training in TTIs. Thus, this observation calls for a systematic study to

establish the strategies and challenges facing TTI principals in as far as student enrolment, retention and promotion of quality technical education are concerned.

1.3 Purpose of the Study

The purpose of this study was to establish the strategies used by principals and challenges faced in enhancement of access, retention and promotion of quality education in Technical Training Institutes in Nairobi County, the knowledge gap this study will seek to fill.

1.4 Objectives of the Study

This study was guided by the following research objectives

i. Establish strategies used by principals and challenges faced in enhancing access in Technical Training Institutes in Nairobi County.
ii. Establish strategies used by principals and challenges faced in retaining students in Technical Training Institutes in Nairobi County.
iii. Establish the strategies used by principals and challenges faced in enhancing quality of education in Technical Training Institutes in Nairobi County.

1.5 Research Questions

This study was guided by the following research questions.

i. What strategies are used by principals and challenges faced in enhancing enrolment in Technical Training Institutes in Nairobi County?
ii. What strategies are used by principals and challenges faced in retaining students in Technical Training Institutes in Nairobi County?

iii. What strategies are faced by principals and challenges faced in enhancing quality of education in Technical Training Institutes in Nairobi County?

1.6 Significance of the Study

The findings of the study are significant in a number of ways.

i. The findings are useful to education stakeholders and can help them implement strategies that may enhance access, retention and quality of education in technical training institutes in Kenya.

ii. The findings will provide information to policy makers which will help in the review of policies that address access, retention and quality of education in Nairobi County.

iii. The study will also serve as a source of reference for future research in this area and related fields.

1.7 Assumptions of the Study

The study made the following assumptions.

i. That enrolment into TTIs in Kenya was transparent in accordance with students' preference.

ii. That the school fees in TTIs is affordable to all eligible students

iii. That the students were willing to learn new and relevant skills.

iv. That the learning environment was conducive for all students.

1.8 Scope of the Study

The following were the scope of the study.

i. The study was confined to TTIs in Nairobi County, Kenya.

ii. Further, the study delimited itself to the strategies and challenges facing principals in enhancing enrolment, retention and promoting quality education in TTIs.

iii. The study was conducted in the 2015 – 2016 period.

1.9 Limitation of the Study

Four (2.9%) of the respondents did not fill the questionnaire fully despite the researcher assuring them of his/her commitment to research ethics especially confidentiality.

1.10 Conceptual Framework

The conceptual framework that guided this study postulated that; Strategies that principals put in place to enhance enrolment, retention and provision of quality education in TTIs and the challenges faced while implementing these strategies were the independent variables. Enrolment into TTIs, retention in TTIs and quality of education in TTIs were identified as the dependent variables. The student attitudes towards learning was the intervening variable (Figure 1.4).

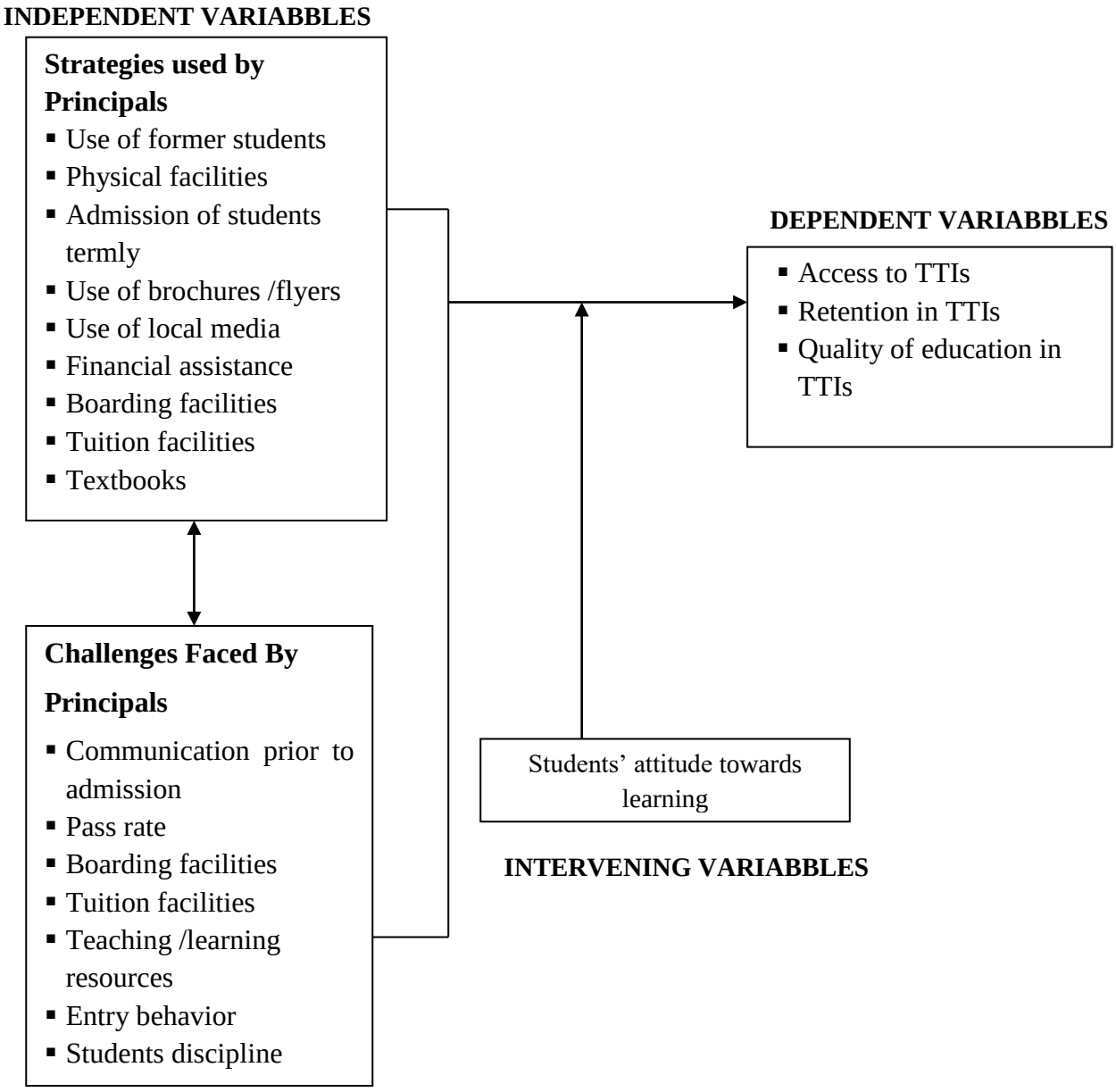

Figure 1.4: Conceptual Framework Showing Strategies and Challenges for Principals in Enhancing Access, Retention and Quality Education in TTIs

Source: Researcher, 2016

From the above conceptual framework developed, the strategies used by principals and the challenges they faced in enhancing access, retention and provision of quality of education were the independent variables while enrolment, retention and quality of education were the dependent variables. From the framework, the challenges faced by principals in TTIs affect the strategies they put in place to counter the challenges. However, both the strategies and the challenges directly affect student enrolment, retention and provision of quality education. On the other hand, the location of TTIs was the moderating variable as this also affects enrolment, retention and quality in education.

1.11 Operational Definition of Terms

Access	Increasing training opportunities by expanding TTIs institutions and programmes across the country, enhancing training grounds and availing technical training to all qualified Kenyans without discrimination including provision of loans and bursaries for those financially challenged. Also enrolment of qualified trainees to TTIs.
Pass rate	Number of people shown as a percent who were successful in particular exam in a given specific period.
Quality of Education	Processes through which trainees acquire knowledge, technical skills and attitudes that are linked to national goals for technical education and positive participation in society.
Retention	Creating a conducive learning environment that enables enrolled trainees to complete their programmes.
Strategies	Methods, plans and measures adopted by principals to enhance access, retention and quality of education in TTIs.
Technical Training Institute	A government-maintained middle level tertiary institution mandated to offer Technical, Vocational, Educational and Training (TTIs) Programmes at Artisan, Certificate and Diploma levels

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review according to the objectives of the study. Specifically, this section presents literature reviewed relating to strategies used and challenges faced by principals in enhancing access, retention and quality education in technical training institutes.

2.2 Strategies Used and Challenges faced by Principals in enhancing Access in Technical Training Institutes

The primary objective of all technical and vocational education and training programmes is the acquisition of relevant knowledge, practical skills and attitudes for gainful employment in a particular trade or occupational area (AU, 2007). The need to link training to employment (either self or paid employment) is at the base of all the best practices and strategies observed world-wide. In recent years, in view of the rapid technological advances taking place in the labour market, flexibility, adaptability, and life-long learning have become the part of the main objective. The other objective, which is particularly important for Africa, is to use TTIs as a vehicle for economic empowerment and social mobility and for the promotion of good governance and regional integration.

Globally, stakeholders have struggled to put strategies in place to enable technical institutions realize their objectives by enhancing enrolment as well as performance of students. Many institutions often wish to increase the number of students they enroll while also increasing the academic quality of their student body. Unfortunately, drastically raising

student enrollment while simultaneously raising the performance of new students is extremely challenging (Engel, 2012). As such, various strategies must be put in place to address the challenges as they emerge. For example, universities and colleges in the USA developed a Student Enrolment Management Policy that ensured that more students were reached and retained in school once enrolled. A specific example of this is when the Loyola University of Chicago in the USA and The College Board sponsored the first national conferences on enrollment management and formulated such a policy in 1980s (Jones, 2003). By the late 1980s enrollment management was hailed as a crucial student recruitment and retention concept. The early 1980s and early 1990s had a significant impact in the area of enrollment, as enrollment shifted from solely an admissions function to an enrollment management concept due to enrollment declines within this time period (Jones, 2003).

The key to enrollment growth and competitive strength in today's higher education market is to offer the right programs to the right students (Zhao & Kuh, 2004). Kuh, Kinzie, Schuh, and Whitt (2005) have also argued that using marketing and recruitment strategies for decision-making and in formulation and implementation of academic programs will help boost enrollment, leading to more positive outcomes for both students and institutions. Zhao and Kuh (2004) argue that to optimize success, institutions must use research and planning to identify and target students, develop programs to meet those student's' goals, then follow through with strong, personalized recruitment and enrollment efforts. They further state that some institutions may choose to implement a complete marketing and recruiting solution to most efficiently and effectively make use of valuable resources. These solutions could be outsourced or developed internally then implemented. Kuh *et al* (2005) also argue that to successfully draw students, new program offerings must align with three data-based

objectives: 1) applicant goals, 2) the institution's brand identity, and 3) the job market. This brings into light the fact that institutions must build brands out of their operations and programs, which should be further aligned to the job market (Community College Survey of Student Engagement (CCSSE), 2004).

Other models to enhance enrolment into college have been devised, top being the provision of scholarships to less financially advantaged individuals (Engel, 2012). Principals and other institution managers have been charged with the responsibility of identifying and screening needy and able students within the community at present them to available scholarship opportunities. In so doing, they are able to attract more able students to their institutions and retain them to the completion of their studies (Bozick, Gonzalez, & Engberg, 2012). Also, other forms of funding can be availed on condition that certain student numbers are reached. Hence, donors and stakeholders can also influence the enrolment status of institutions through the provision of scholarships to needy students. They can also influence the strategies that can be put in place to enhance enrolment by the institution managers.

Nyerere (2009) observed that the conversion of some TTIs to university colleges, may in the long run compromise TTIs programmes in the country. It is clear that for TTIs to be meaningful for the development, the emphasis should be on practical orientation. By converting these institutions into universities colleges only reinforces the teaching paradigm of embracing academics rather than practical skills, further hampering access and enrolment in TTIs. Again, unfortunately research has shown that people in society-politicians, educators, administrators, parents or learners-do not fully appreciate the value of TTIs (Kerre, 1996; Tum, 1996). Simiyu (2009) suggested that the major reason for this negative

attitude is the long-term low status of TTIs compared to general education. This attitude can be a reaction to colonial times when Africans were expected to be manual workers and, therefore, were provided with technical and vocational education, while general academic education was reserved for Europeans who filled white-collar jobs. To date, the notion that technical training education is meant for individuals being trained for manual work thrives, further hampering enrolment in TTIs.

The literature reviewed indicates that strategies such as student enrollment management policy, scholarships among others (Jones, (2003) and Engel, (2012)) can be used to enhance access in TTIs. However, what was unknown were the strategies used by principals of TTIs in Nairobi County to enhance access to TTIs, hence the knowledge gap this study sought to fill.

Currently, Kenya has more than about 50 Technical Training Institutes and over 600 Vocational Training Centres (VTC) popularly known as village polytechnics. These institutions offer a wide range of training programmes from craft to diploma certificate levels. A variety of courses are offered including building construction; carpentry and joinery, commercial-based fields; engineering, textile-leased programmes, catering, accommodation and information and communication technology. This TVET system is characterized by several problems (Ngome, 2003). Nyerere (2009) also observes that the lower status still ascribed to TTIs and the high cost associated with TTIs programmes have pushed enrolments downwards, towards service oriented theoretical programmes. Also, increased government investment into art-based training courses such as accounts and

secretarial studies than putting up workshops and equipping them for technical subjects has catapulted enrolment, retention and provision of quality education further down.

Technical Training Institutes in Kenya is faced with major challenges. Ngome (2003) argues that the provision in the public budget for TTIs is a great challenge. The effect of this under-funding is devastating. Over the past two decades, TTIs have continued to receive less financial allocations from the government than the estimated annual expenditure, a trend which is expected to continue. Consequently, physical facilities are dilapidated and lack maintenance. Equipment used for training in most institutions is outdated while vital aspects of the training support system are wanting with such areas as library acquisitions being relegated to the periphery with negative impact on the quality of TTIs programmes.

Another challenge that Ngome (2003) notes is the declining quality of staff which is affecting the ability of TVET institutions to accomplish their role in society. These institutions are generally unable to attract and retain high calibre academic staff. This is mainly due to the low level of remuneration, which they offer. The challenge of declining quality of staff has led to the lack of provision of certain technical skills in the training programmes by TTIs. These technical skills are those that are much needed in the domestic market (Ngome, 2003). An example is the lack of training in bicycles assembling and repair, despite the growth of demand for bicycles in the country, especially in the rural areas where a bicycle is a very important mode of transport. Surprisingly no institution in the country offers training in bicycle assembling and repair (Ngome, 2003). On the other hand, while industries are the major consumers of TTIs graduates, they play a peripheral role in development and implementation of TTIs curricula which exacerbates the mismatch between formal training

and requirements of employers (Ngome, 2003). These challenges are coupled with the declining enrollment levels in TTIs, particularly in the traditional engineering and building based courses, posing a serious challenge to the country's policy of industrialization (Ngome, 2003).

Another challenge highlighted by Ngome (2003) is that since formal sector employment has been stagnant for decades and the informal sector that has been generating about 75 percent of the total employment in the country is now saturated; large numbers of TTIs graduates have become victims of unemployment. This is disheartening to most of them hence the lower enrolment levels in TTIs. Again, Ngome (2003) notes that TTIs exhibit gender and regional inequalities where women are not only underrepresented but also cluster around home science, typing, tailoring and office practice courses. These skills tend to prepare them for their traditional role as mothers and homemakers. At the regional level, members of those communities that hail from high potential districts of the country are over-represented in TVET institutions while those drawn from arid and semi-arid (ASAL) zones are seriously under-represented. These problems are now being compounded by the HIV/AIDS pandemic (Ngome, 2003). This study sought to establish whether the same challenges mentioned herein likewise affected access in TTIs in Nairobi County, thus the knowledge gap this study sought to fill.

2.3 Strategies used and Challenges faced by Principals in enhancing Student Retention in Technical Training Institutes

Student retention has become a major problem for the community, and therefore effective measures for student enrolment and retention must be implemented in order to increase the enrolment and retention of qualified students in technical institutions. Since 1980s, American institutions have experienced a major problem retaining student in institutions of higher learning, particularly under-represented minorities (Lau, 2003). The loss of students returning to campus for another year usually results in greater financial loss and lower graduation rate for the institution, and might also affect the way stakeholders, legislators, parents and students view the institution and administrators can attest to the high cost of recruiting in-coming students (Lau, 2003). Student retention is also an enormous problem in the UK where administrators of higher learning and technical institutions have resorted to focus their efforts on reducing student attrition since external funding is majorly determined by the number of students in an institution (Nash, 1996).

Student retention is a predominantly critical issue in the perspective of widening participation for under-represented student groups, increasing student diversity and educational quality assurance and accountability processes. As well, non-completion among students has financial implications for students (and their families), and for society and the economy through the loss of potential skills and knowledge. The reputational fall-out of low student retention and high student attrition figures can be damaging for institutions (Yorke & Longden, 2004). There are also financial and reputational implications for higher education institutions.

In the UK the two measures of retention are 'completion rate' and 'continuation rate'. These measures are narrow, and are translated into institutional performance indicators. 'The first measure, 'completion rate' is the proportion of starters in a year who continue their studies until they obtain their qualification, with no more than one consecutive year out of higher education. As higher education courses take years to complete, an expected completion rate is calculated by the Higher Education Statistics Agency… The second measure, 'continuation rate' is a more immediate measure of retention is the proportion of an institution's intake which is enrolled in higher education in the year following their first entry to higher education (National Audit Office, 2007). In the UK, these indicators are contextualized by a 'benchmark' for each institution, which takes account of students' entry qualifications and subjects studied, and thus suggests what the completion and continuation rates ought to be. These factors are also used to allocate funding to support the retention of students in higher education via the core grant.

Students may not continue with their studies for a variety of factors. Research exploring the reasons for student withdrawal tends to conclude that there is rarely a single reason why students leave. In most cases, the picture is complex and students leave as a result of a combination of inter-related factors (Crosling, Heagney & Thomas, 2009). Echoing the findings of an Australian study, (Long, Ferrier & Heagney, 2006), a synthesis of UK research on student retention (Jones, 2008) identified the following categories of reasons why students withdraw: poor preparation for higher education; weak institutional and/or course match, resulting in poor fit and lack of commitment; unsatisfactory academic experience; lack of social integration; financial issues; and personal circumstances. Thus, some students

withdraw for reasons beyond the jurisdiction of the institution, including personal reasons and changed personal circumstances, wrong or 'second choice' course selection and movement to other courses that meet their interests and aspirations more directly (Crosling, Heagney & Thomas, 2009).

The HERE Project (2008-2011) suggests that institutions should support students to stay in colleges through the improvement of social integration; improve a sense of belonging to the programme among students; foster motivation and help students understand how the programme can help achieve their future goals; encourage students' active engagement with the curriculum and ensure that there is good communication and access to additional student support.

On the other hand, school administrators can help students stay in school by providing them with the appropriate funding, academic support services, and the availability of physical facilities, in addition to the effective management of multiculturalism and diversity on campus. Faculty members can help maintain a positive learning environment for students by using multimedia technology and innovative instructional techniques such as cooperative and collaborative learning in the classroom. Ultimately, the success of college retention depends in the students themselves. Therefore, students must be motivated to participate actively in their own learning process.

So far, the literature reviewed indicates the general acceptable strategies that can be employed to enhance student retention in TTIs. However, the specific and workable strategies that were used to enhance student retention in TTIs in Nairobi County were yet to be known. It is this gap that this study sought to fill.

Research has shown that there are not only economic advantages for individuals who obtain technical skills through training in comparison to those with no technical skills only, but also increased well-being in terms of health and civic engagement (Day & Newburger 2002; Dee 2004; Ross and Wu, 1996). Thus, access to technical education and TTIs' retention are important areas of focus when considering education and its impact on well-being of individuals.

Technical Training Institutes systems in Africa differ from country to country and are delivered at different levels in different types of institutions, including technical and vocational schools (both public and private), polytechnics, enterprises, and apprenticeship training centres (AU, 2007). In West Africa in particular, traditional apprenticeship offers the largest opportunity for the acquisition of employable skills in the informal sector. In Ghana, the informal sector accounts for more than 90 percent of all skills training in the country (AU, 2007).

In all of Sub-Saharan Africa, formal TTIs programmes are school-based (AU, 2007). In some countries, training models follow those of the colonial power. In general however, students enter the vocational education track at the end of primary school, corresponding to 6-8 years of education as in countries like Burkina Faso and Kenya, or at the end of lower or junior secondary school, which corresponds to 9 – 12 years of what is called basic education in countries like Ghana, Nigeria, Mali and Swaziland. The vocational education track has the unenviable reputation of being a dead end so far as academic progression is concerned and fit for those pupils who are unable to continue to higher education.

Regarding the governance of TTIs, oversight responsibility is shared in general between the ministries responsible for education or technical education and labor or employment, although some specialized vocational training programmes (in agriculture, health, transport, etc.) fall under the supervision of the sector ministries (Atchoarena & Andre, 2002). In spite of the multiplicity of training programmes, the place of TTIs in the school system in many countries is marginal both in terms of enrolments and number of institutions.

Much of the research on college enrolment patterns is founded upon the "human capital" model advanced by Becker (2008). According to this theory, one decides to enroll in college as an investment in future earning power. Individuals calculate the value of attending college by comparing costs (direct and indirect) with expected income gains, and they make the decision that will maximize their utility over the long term (Federal Republic of Nigeria, 2008). Hence, to understand enrolment behavior according to this model, it is necessary to look at such factors as tuition levels, student financial aid, average wages for high school graduates, and the difference in lifetime earnings between high school and college graduates (Randell, 2007).

Within the econometric and sociological models, the factors affecting enrolment in college can be divided into two general types: those specific to individual students, such as academic achievement and parental education levels, and those specific to educational or vocational alternatives, such as college tuition, financial aid, and unemployment levels. Students' enrolment decisions can be viewed as jointly determined by their individual characteristics and the institutional or societal conditions that prevail.

Low income students are affected differently by publicly provided financial aid and aid supplied by institutions (Randell, 2007). Randel states that public grants tend to promote greater equity among income groups in college enrolment. Private grants, however, are often awarded on the basis of academic ability, and they tend to favor students who could afford to go to college without them. Clotfelter (2006) expresses the same concern about the effects of institutional aid. Even public aid is not always awarded where the need is greatest.

Enrolments in technical courses are strongly associated with a number of background factors (Pereira, 2007). These factors constitute external influence on students' enrollment decision at all levels. They are also considered background factors that are strongly implicated in students' enrollment decision. Despite the various interventions to ensure that technical institute graduates are well equipped with the requisite practical skills for the job market and the campaign about the benefits of technical and vocational education, it has not attracted the youth in to move into technical and vocational training at all (Dasmani, 2011).

Traditionally TTIs was regarded to be a provision reserved for the male gender in Developing Countries (Wahba, nd). This belief has resulted in serious omissions in national government development plans where women are given a raw deal. Consequently, most of the TTIs facilities are planned without taking into consideration the female gender. Coupled with this cultural belief among most of the communities, women are discouraged from enrolling for vocational career training opportunities. Enrolment data from TTIs indicate that very low percentage of the women's total enrolment is in Vocational areas (Wabha, nd).

There are many challenges for TTIs in developing countries in terms of systematic professional development of instructors/trainers/teachers demands. Instructors/trainers/ teachers are posed with problems on how to use new technology and keep up with teaching methods of various vocational training (Wabha, nd). This challenge is one of the most important issues when dealing with Quality Assurance of TTIs as one of the major objectives for TTIs Reforming in Developing Countries. Equally, there are challenges related to infrastructural resources, especially challenges for establishment of appropriate infrastructures, upgrading existing material and training resources available. There is need for proper tools, equipments to be used in vocational training and be used by instructors / trainers / teachers to keep up with the skills with changing times.

Dasmani (2011) argues that the infrastructure and systems for TTIs (Institutes, Centers and Schools) in Developing Countries and the skills delivered cannot be static. The market requirements are changing with such great pace that the TTIs have to be constantly in re-construction. This is specially the case with training curricula, infrastructure, trainers' skills, market linkages, etc. The outcome based approach in this regards seems to be the most appropriate. A TTIs should build its credibility by effectively training the candidates and contributing to a career development of the persons rather than act as an institution for rolling training programmes (Palmer, 2005).

The lack of appropriately trained TTIs personnel in Kenya and the rigid curriculum requirements of TTIs courses and programmes generally limit the ability of training providers to accept sustainable vocational education as a valuable education. Likewise, the rigid curriculum does not address the needs of the market (Atchoarena & Esquieu, 2002).

Therefore such barriers provide challenges for the TTIs sector in Kenya that should be resolved and areas where Higher Education (HE) can contribute, should be identified.

Student retention is one of the most significant challenges facing technical education in Kenya today. With one-third of TTI students dropping out of school each year (Simiyu, 2009), it's a challenge TTIs and their management have noticed, but few have not found a workable solution to the problem. It is with this background that this study sought to establish the challenges that institution managers (Principals of Nairobi County TTIs) are facing while endeavoring to enhance retention and what strategies they put in place to retain the few students that they enrolled, thus the knowledge gap this study sought to fill.

2.4 Strategies used and Challenges faced by Principals in enhancing Quality of Education in Technical Training Institutes

High-quality education is essential for all individuals, without which people can suffer learning deficits that can last a lifetime. There is ample Western literature concerning those factors that influence quality of education and performance of students. Some scholars (Corcoran & Wilson, 1989; Levine & Lezotte, 1990; Lezotte & McKee, 2006; Lezotte & Pepper, 2002; Reeves, 2004, 2009) have described extensively specific characteristics that distinguish effective schools and sustain successful teaching and learning, and enhance students' achievement. Others have highlighted internal school improvement processes or mechanisms of evaluation that help promote effective learning and high achievement of students (Bollen, 1996; Harris et al., 2002; Hopkins, 1994, 2000). Some scholars also emphasize the family background of students as an important factor that explains students' achievement (Coleman et al., 1979; Shimada, 2010). Other intellectuals discussed aspects of

school leadership skills and methods that enhance the quality of schooling and higher academic performance of students (Duke, Tucker, Salmonowicz, & Levy, 2006; Leithwood, Louis, Anderson, & Wahlstrom, 2004). All of these are significant for a better understanding of the varied factors that positively or negatively impact on quality education.

Edmonds (1982) and Robinson, Lloyd and Rowe (2008) see the attainment of educational excellence or quality education in institutions through students' mastery of basic skills and the art of independent, creative thinking and team work, as the hallmark of an effective school. Goodlad (1984) on the other hand, stressed the overall educational progress of students through the promotion of students' academic, intellectual, vocational, socio-civic, cultural and personal development as key measures of effective schools.

Lezotte and Levine (1990), and McKee (2006), Reeves (2009), Corcoran and Wilson (1989) also identified some key characteristics of effective schools. Effective schools must have competent principal leadership and committed teaching staff with an instructional focus on fundamental skills. Effective schools expect high academic standards for all students in a positive and caring atmosphere, supported by teachers, support staff and local community. Bollen (1996) in support of Lezotte and Levine argued that an effective school is the one that sustains "...the climate and culture in which an effective teaching/learning process will flourish". Reynolds (1994) described these school effectiveness characteristics as practical "effectiveness generating school processes". Reynolds however, warned that "academic effectiveness", that is classroom achievement, must not be linked with social or "affective effectiveness", which deals with attendance rates, home background and delinquency (Bosker & Scheerens, 1989; Cuttance, 1992; Mortimore, Sammons, Ecob, & Stoll, 1988;

Reynolds, Sammons, Stoll, Barber, & Hillman, 1996). Reynolds, Sammons, De Fraine, Townsend, and Van Damme (2011) and Hallinger and Murphy (1986) observed that what might make one school effective might not necessarily hold across other schools and most schools may manifest specific aspects of effectiveness and yet be lacking on others (Smith & Tomlinson, 1989).

Day (1999) and Day and Leithwood (2007) highlighted the essential role played by the collective vision of an effective school. According to Day, the effective school is that whose vision and mission are shared by the principal, teachers, as well as students. The school that identifies itself with one vision is the one that can effect change integrally and sustain school effectiveness. Dawson (2007) believes that it is the level of participation in the crafting of the collective school vision and mission by teachers, students and principal that gives potency to the actual vision and mission statements for improving teaching and learning. Thus, when staff and students are not consulted in the development of a school vision, it becomes difficult for the school community to identify with that vision and to cooperate towards its realization.

Since the late 1990s, most educational leadership academics have studied the dynamics of successful school leadership that leads to effective schooling and high achievement of students. Contemporary scholars such as Duke, Tucker, Salmonowicz and Levy (2006) have observed that the lack of effective leadership in schools lowers students' achievement because the absence of quality leadership often results in ill adapted school organization and programs. It also leads to unstable and difficult staffing, students' negative attitudes to academic work and discipline, an unhealthy school system and climate, and non-cooperation

of parents and community. The consequences of failed school leadership are grave. This seems to explain the significance of shifting the debate on effective schools from unique school effectiveness characteristics and school improvement mechanisms to more pragmatic and integrally, efficient educational leadership traits, which enhance students' learning and achievement. This brings to question the strategies that principals in institutions should put in place to enhance quality of education and how best can they implement these strategies.

While there is no single strategy that is appropriate for all situations and institutions globally, most strategies formulation were informed by certain prevailing factors; hence their formulation and implementation will be solely determined by these same factors. For example in Germany, to constantly check on quality and relevance of training, the dual system of vocational training allows for learning to take place in a vocational school and in production facilities or in the service industry concurrently. Trainees receive training in a company three or four days per week and at a part-time vocational school one or two days per week. Training in the dual system is open to all young people. Job centres help in arranging placements for training and companies themselves also offer trainee positions. Training agreements must be signed between the company and the trainee. The purpose of the tuition received at the vocational school is to supplement the training received by students in companies at a theoretical level and to fill quality gaps in general education. The dual system is governed by legislation under the Vocational Training Act.

In Singapore, a National Manpower Council was put up to bring together the Ministries of Manpower, Education, and Trade and Industry to determine manpower targets from the Institutes for Technical Education, the Universities and Polytechnics (Ministry of

Manpower, 2005). The Ministry of Education has the primary responsibility for ensuring longer term supply of skills in relation to national development targets. Training also involves the inculcation of shared cultural values and attitude development. Consequently, training is relevant to the labor market needs. Likewise, attention to attitude development leads to a hardworking and disciplined workforce.

In South Africa, the National Qualifications Framework (NQF) was established to provide mechanism for awarding qualifications based on achievement of specified learning outcomes. Implementation of the NQF, which includes recognition of prior learning, lies with the South African Qualifications Authority (SAQA, 2002). Learning outcomes are specified by employer-dominated Sector Education and Training Authorities (SETAs) (AU, 2007). This has led to effective coordination of the TTIs system, better coherence of the qualification structure, including accumulation of credits and recognition of prior learning. Also, there is a greater market relevance of training programmes and financial involvement of industry in the development of skills. This has enabled South African institutions to improve on quality of education whilst retaining students. While it has been established that managers in TTIs in other parts of the world can formulate and employ various strategies so as to enhance student satisfaction hence retention in TTIs, there is no single strategy that is appropriate for all situations and institutions globally.

From the literature reviewed so far, general challenges that are faced by principals in enhancing quality of education in TTIs were established. However, the specific challenges facing the principals of TTIs within Nairobi County had not been so far established hence the

gap that this study sought to fill by carrying out this study. Hence, conspicuously missing was the literature regarding the specific strategies used by principals in TTIs in Nairobi to retain students who had already been enrolled. It this gap that this study sought to fill.

In the Sessional Paper No. 2 of 1996, Kenya articulates its intention to industrialize by the year 2020. Unfortunately, the TTIs system that is expected to play a critical role in this endeavor by providing necessary skills that will catalyze the industrialization processes is in a sorry state. These institutions offer a wide range of training programmes from craft to diploma certificate levels. A variety of courses are offered including building construction; carpentry and joinery, commercial-based fields; engineering, textile-leased programmes, catering, accommodation and information and communication technology. This TTIs system is characterized by several problems.

Ngome (2003) argues that the provision in the public budget for TVET institutions is a great challenge. The effect of this under-funding is devastating. Over the past two decades, TVET institutions have continued to receive less financial allocations from the government than the estimated annual expenditure, a trend which is expected to continue. Consequently, physical facilities are dilapidated and lack maintenance. Equipment used for training in most institutions is outdated while vital aspects of the training support system are wanting with such areas as library acquisitions being relegated to the periphery with negative impact on the quality of TTIs programmes.

Another challenge that Ngome (2003) notes is the declining quality of staff which is affecting the ability of TTIs to accomplish their role in society. These institutions are generally unable to attract and retain high calibre academic staff. This is mainly due to the low level of remuneration, which they offer. The challenge of declining quality of staff has led to the lack of provision of certain technical skills in the training programmes by TTIs. These technical skills are those that are much needed in the domestic market (Ngome, 2003). An example is the lack of training in bicycles assembling and repair, despite the growth of demand for bicycles in the country, especially in the rural areas where a bicycle is a very important mode of transport. Surprisingly no institution in the country offers training in bicycle assembling and repair (Ngome, 2003). On the other hand, while industries are the major consumers of TTIs graduates, they play a peripheral role in development and implementation of TTIs curricula which exacerbates the mismatch between formal training and requirements of employers (Ngome, 2003). These challenges are coupled with the declining enrollment levels in TVET institutions, particularly in the traditional engineering and building based courses, posing a serious challenge to the country's policy of industrialization (Ngome, 2003).

Another challenge highlighted by Ngome (2003) is that since formal sector employment has been stagnant for decades and the informal sector that has been generating about 75 percent of the total employment in the country is now saturated; large numbers of TTIs graduates have become victims of unemployment. This is disheartening to most of them hence the lower enrolment levels in TTIs. Again, Ngome (2003) notes that TTIs exhibit gender and regional inequalities where women are not only underrepresented but also cluster around home science, typing, tailoring and office practice courses. These skills tend to prepare them for their traditional role as mothers and homemakers. At the regional level, members of those

communities that hail from high potential districts of the country are over-represented in TVET institutions while those drawn from arid and semi-arid (ASAL) zones are seriously under-represented. These problems are now being compounded by the HIV/AIDS pandemic (Ngome, 2003).

In Kenya, there are various challenges that hinder the provision of quality of education among the youth in TTIs. The key challenges among others, include: the poor perception of TTIs where the public and even parents consider the vocational education track as fit for only the academically less endowed; Gender stereotyping where certain vocational training programmes like dressmaking, hairdressing, and cookery are associated with girls - very often girls who are less gifted academically; Instructor training where the delivery of quality TTIs is dependent on the competence of the teacher - competence measured in terms of theoretical knowledge, technical and pedagogical skills as well as being abreast with new technologies in the workplace; Linkage of TTIs to the labor market where the ultimate aim of vocational training is employment and TVET programmes therefore have to be linked to the job market and; Inefficient operational and funding mechanisms where it is perceived that the parent ministry centrally controls the public TTIs, leaving little room for innovation on the part of the institutions. In this case, there is need to increase the operational autonomy of public training providers through decentralization and devolution of management powers to the institutions (AU, 2007). Operational autonomy can be balanced by output-based funding mechanisms that link government funding to institutional performance in the area of success rates, innovation and employability of trainees. What was unknown were the challenges principals were facing in enhancing quality education in TTIs in Nairobi County. The gap this study sought to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design, description of the area of study, study population, sample size, instruments for data collection, data collection procedure, data analysis approaches and ethical considerations. That is, it provides a description of activities that were undertaken to actualize the study.

3.2 Research Design

Descriptive survey design was adopted for this study. According to (Anasta, (1999))s (1999), descriptive research design helps provide answers to the questions of who, what, when, where, and how associated with a particular research problem. Descriptive research is used to obtain information concerning the current status of the phenomena and to describe "what exists" with respect to variables or conditions in a situation. Further, Anastas (1999) argues that descriptive research is used to describe behaviors and attributes that are observed and measured, rather than tested with an experiment. Hence, this study employed the descriptive design to establish the challenges that principals experienced in enhancing access, retention and quality education in TTIs.

3.3 Area of Study

The study was carried out in three TTIs namely; Kabete, Nairobi and PC Kinyanjui in Nairobi County. Nairobi is the capital and largest city of Kenya. It lies between the latitudes 2°S and 0^0S and longitudes 36°E and 38^0E, with an altitude of 1788m above sea level. The city and its surrounding area also form Nairobi County. Nairobi was founded by the British

in 1899 as a simple rail depot on the railway linking Mombasa to Uganda. The town quickly grew to become the capital of British East Africa in 1907, and eventually the capital of the newly independent Kenya Republic in 1963.During Kenya's colonial period, the city became a centre for the colony's coffee, tea and sisal industry. With a 2011 estimated population of about 3.36 million, Nairobi is regarded as the second-largest city by population in the African Great Lakes region after Dares Salaam, Tanzania (Junior Worldmark Encyclopedia of World Cities, 2000).

According to the 2009 census, in the administrative area of Nairobi, 3,138,295 inhabitants lived within 696km^2 (269 sq mi).With this high population and its status as the capital city of Kenya, there is an immense need for highly skilled and trained technical manpower to meet the market demands for the various sectors already established and those yet to be established. To meet this demand, the government and other relevant sectors have established training centres and institutions that train skilled manpower.

According to Singleton (1993), the ideal setting for any study is one that is directly related to the researcher's interest and that the ideal setting for any study should be easily accessible to the researcher and should be that which permits instant rapport with the expected informants. Besides being a place of interest to the researcher, Nairobi County had a total of 3 public TTIs whose mandate was to offer training to the middle level manpower. The map of Nairobi County (Appendix 5) indicates where the 3 TTIs are located within Nairobi County.

According to TSC (2014) statistics, enrolment and retention in TTIs in Nairobi County had been on the decline. This is presented in Table 3.1. The overall decline of student enrolment in TTIs in Nairobi County stood at 26.75% as of 2014 (TSC, 2014). The general capacity in

the three TTIs in Nairobi County at the time of the study was 1820, 4500 and 5000 respectively. This totals upto 11320 hence the enrolments were below capacity (Figure 1.2 and Table 3.1).

Table 3.1: Enrolment Statistics for TTIs in Nairobi County between 2010 - 2014

	2010	**2011**	**2012**	**2013**	**2014**
Enrolment	8643	7418	6987	6514	6331
Decline (f)	-	1225	431	473	185
Decline (%)		14.17	5.81	6.77	2.8

Source: TSC strategic plan (2014)

Given the above statistics, the researcher sought to establish the strategies that TTI principals in Nairobi County were putting in place to address the problem of declining enrolment, ability to retain students and the ability of the TTIs to provide quality education. Likewise, the researcher sought to identify the challenges the principals were facing while implementing these strategies.

3.4 Target Population

Target population is defined as all the members of a real or hypothetical set of people, events or objects to which a researcher wishes to generalize the results of the research study (Borg & Gall, 1989). The target population consisted of the 3 Principals, 28 academic HoDs, 379 lecturers and 27 students 'council members from the 3TTIs in Nairobi County. Table 3.1 presents the distribution of the target population per TTI below, giving a total of 437 people.

Table 3.2: Target Population

	Principals	HoDs	Lecturers	SCM*	Total
Kabete	1	8	168	9	186
Nairobi	1	12	133	9	155
PC Kinyanjui	1	8	78	9	96
Total	**3**	**28**	**379**	**27**	**437**

Source: (TSC strategic plan (2014) **Student Council Members*

The study's total population size was437, which comprised of the principals, HoDs, lecturers and student council members. The Morgan and Krejcie (1970) table for sample size determination was used to determine the sample size for HoDs, lecturers and student council members as 26, 191 and 26 respondents respectively. Further, the ratio method was used to determine the categorical sample size within each TTI. Hence, the ratio representation of each category based on the total number of respondents was calculated to yield the ratios that were used to determine the sample size for each category as shown in Table 3.2. The ratios were applied on the respective sample sizes to yield the respective samples for each category as shown in Table 3.3.

Table 3.3: Sample Frame for TTIs

Category of Respondents	Target Population	Sample Size
Principals	3	3
Academic HoDs	28	23
Lecturers	379	191
Student Council Members	27	22
Total	**437**	**239**

Source: Author, 2015

The study employed saturated and simple random sampling techniques to select the respondents. The principals and student council members were selected purposively while the HoDs and Lecturers were randomly selected.

3.5 Sample Size and Sampling Techniques

Orodho and Kombo (2002) described sampling as the process of selecting a representative number of individuals from a population. Researchers rarely studied the entire population mainly the cost was too high, and the population was dynamic in that the individuals making up the population may change over time thus Sampling was cost effective method on data collection and improved the accuracy and quality of the data (Kothari, 2004**).**

The stratified simple random sampling technique was thus preferred in this study. Stratified random sampling was a method of variance reduction to estimate population statistics from a known population. To select the respondents their respective sections called strata using proportionate stratified sampling due to similar sample ratio thus improving the representativeness of the sample by reducing sampling error. Stratified simple random sampling techniques aimed respondents while the principals and student council members were selected purposively while the HoDs and Lecturers were randomly selected.

3.6 Data Collection Instruments

For this study, data was collected from both primary and secondary sources. Creswell (2008) observes that collecting data from both primary and secondary sources helps the researcher to employ strategies of inquiry that involve collection of data either simultaneously or sequentially to best understand research problems hence improving instrument validity

because the strengths of one approach can compensate for the others' weaknesses. As such, the study used questionnaires, interviews and document analysis schedules as tools for data collection.

3.6.1 Student Council Members, HoDs and Lecturers' Questionnaires

Yin (2003) argues that questionnaires are a method used to collect standardized data from large numbers of people. They are used to collect data in a statistical form and therefore generalizations about a particular phenomenon in a particular environment can be made. The study will administer questionnaires which are both closed-ended and open-ended to the respondents to capture both qualitative and quantitative data. By administering the questionnaires to the student council members, Heads of Departments and Lecturers, the study inquired about the possible factors that resulted in school dropout rates among students in TTIs. The study was also able to inquire about the issues affecting enrolment and provision of quality education.

3.6.2 Principals, HODs, Lecturers and SCM Interview Schedules

Interviews are best suited to evaluate views, opinions, perceptions, feelings and attitudes of individuals (Touliatos & Compton, 1988). On the other hand, interviews can also compliment what other tools of data collection may not be able to capture as the researcher can observe the respondents in real time as they answer the questions. Also, the researcher can probe deeper in situations where the responses may not be clearer. In this study, interviews were used to make an in-depth analysis of the current state of student enrolment in TTIs. Also, the interviews enabled the researcher to establish the challenges facing TTI management while undertaking their mandate and the corresponding strategies they had put in place to address these challenges.

3.7 Validity of the Instruments

Validity is the degree to which the results obtained from data actually represent the phenomenon under study (Silvan, 2008). According to Joppe (2000), validity determines whether the research truly measures that which it was intended to measure, or how truthful the research results are. Face and content validity ensures that there is a logical link between research objectives and research hypothesis. Kumar (2011) observes that face and content validity is crucial in ensuring that each question or item on the sub-scale have a logical link with an objective of the study. This concurs with Amin (2005) assertions that face and content validity is determined by expert judgment. In this study the validity of the instruments was calculated by using the Content Validity Index formulae. The researcher involved 10 lecturers in the department of Educational Management and Foundations, Maseno University who were asked to rate items in the research instruments into either good or inappropriate. The number 10 was in line with suggestions by Mason (2010) who indicates that at 6 to 10 experts is adequate for face and content validity. The formula: CVR = [(G - (N / 2)) + (N / 2)]/N was used; N represents the total number of experts and G the number who rated the object as good. 8 participants indicated that the instruments were good. The Content Validity was 98.

Index was found to be 0.8. Kathuri and Palls (1993) argue that instruments with validity confident of at least 0.7 are accepted as valid in research. However, the suggestions that were given by the experts were used to revise and improve the research instruments.

3.8 Reliability of the Instruments

Reliability is the ability of a research instrument to reproduce the same results using the same measures if it was to be applied to the same population a second time later (Gay, 1996). A reliable instrument is one that would give the same results if used repeatedly with the same group of respondents. On the other hand, validity is often defined as the extent to which an instrument measures what it purports to measure (Wimmer & Dominic, 2006). Mugenda and Mugenda (2003) states that reliability in research is influenced by random error and that as the random error increases, reliability decreases and vice versa. Leary (2004) explained that although all measures contain errors, the more reliable the instrument, the less likely it is that these influences will affect the accuracy of the measurement. A pilot study was used involving 5 SCMs, 10 lecturers and 5 HODs to determine the reliability of the research instruments to be used in the study. The interval of time between administrations should be considered with this form of reliability because test-retest correlations tend to decrease as the time interval increases (Robson, 2002). It was therefore anticipated that an interval period of two to three weeks would increase the correlation value as opposed to a longer period of time. The reliability indices for SCM was .71, HODs .81 and lecturers .74 at p value of .05. They were therefore considered reliable.

3.9 Data Collection Procedure

The research permit was sought and acquired from the National Council for Science, Technology and Innovation (NACOSTI) before proceeding to the field to collect data. The Education Office in Nairobi County informed of the study and further permission granted. The principals of TTIs were informed of the study and appointments made to collect data

from them, Heads of departments, Lecturers and Students Council Members. Twenty three questionnaires were distributed to HODs, 191 questionnaires were distributed to lecturers and 22 questionnaires were distributed to students council members. They were given a few hours to complete and return. The researcher administered these questionnaires. At the time of distributing questionnaires, appointment were made with the respondents for interviews. The interviews were conducted in the institutes at the agreed times and places. For the heads of department the interviews took 25 to 30 minutes, lecturers 20 to 25 minutes and students council members 20 to 25 minutes. During the interviews the data was recorded in a note book by the researcher. The interviews and questionnaire data was necessary for corroboration.

3.10 Data Analysis

Sandelowski (2000) and Yin (2003) pointed that analysis of data involves examining, categorizing, tabulating or otherwise combining the evidence to address the initial propositions of a study. Before data entry, screening was done to ensure that responses were legible and understandable and that responses were within an acceptable range and were complete, and all the necessary information had been included (Leary, 2004). Quantitative data was analyzed using descriptive statistics inform of frequency counts, percentages and means. Descriptive statistics allowed the researcher to describe the data and examine relationships between independent and dependent variables. The qualitative analysis involved the idea of using themes and categories as advised by Charmaz (1983) who states that categories serve to pull together and give meaning to a series of otherwise discreet events, statements, and observations in the data. Qualitative data was transcribed, categorized and analyzed using emergent themes and subthemes.

3.11 Ethical Considerations for the Study

The researcher followed the standards of research ethics. These included ensuring that participants were well informed of the study so that they could participate from a point of information. Once permission was granted by Maseno University and a research permit from NACOSTI, the principals of the institutes were notified and the study was conducted. The study upheld confidentiality and anonymity of the respondents and likewise, promised full disclosure of the findings of the study to the participants. The names of all informants were coded to conceal their identity and to maintain confidentiality.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents results and discussion of the findings of the study. The findings are presented thematically based on the objectives of the study. These objectives were to:

i. Establish strategies used by principals and challenges faced in enhancing access in Technical Training Institutes in Nairobi County.
ii. Establish strategies used by principals and challenges faced in retaining students in Technical Training Institutes in Nairobi County.
iii. Establish the strategies used by principals and challenges faced in enhancing quality of education in Technical Training Institutes in Nairobi County.

4.2 Response Rate

The study sought to collect data from a sample size of 239 respondents distributed across the 3 TTIs in Nairobi County. Upon administering the questionnaires, 22 student council members returned their questionnaires to the researcher. (Table 4.1).

Table 4.1

Response Rate for the Study

TTI	HOD			Lecturers			Student Council Members		
	No. Issued	No. Returned		No. Issued	No. Returned		No. Issued	No. Returned	
	f	f	%	f	f	%	f	f	%
Kabete	6	6	85.7	85	79	92.9	8	8	100
Nairobi	11	11	100	67	64	95.5	7	7	100
PC Kinyanjui	6	6	100	39	32	82.1	7	7	100
Total	**23**	**23**	**100**	**191**	**175**	**91.6**	**22**	**22**	**100**

Source: Field Data, 2015

From Table 4.1, out of the 23 HoDs respondents who were issued with questionnaires, all the 23 returned their questionnaires which was 100%, only 175 out of 191 lecturers returned their questionnaires which was 91.6% and all the 23 students council members returned their questionnaires which was 100%. According to Mugenda and Mugenda (2003), a return rate of 70% and above is good enough for a study to continue with analysis. Since the response rate was well above 70% the study considered it as quite appropriate for analysis as it was considered to provide realistic results. This response rate was high because the research himself had administered the questionnaire and conducted the interviews, a factor that enhanced the response rate.

4.3 Demographic Data of Respondents

The researcher sought to understand the respondents who participated in the study by collecting and analyzing their demographic data. Specifically, the researcher sought to establish the gender of the respondents, their age, their area of professionalism, and the length of time the students had been in the institutions. The researcher also sought to know the length of time the lecturers had served in their respective institutions. This data was important in establishing the credibility of their responses (Tables 4.2, 4.3, 4.4 & 4.5).

Table 4.2

Gender of the Respondents

		Frequency	**Percent**
HoDs & Lecturers	Male	164	82.8
	Female	34	17.2
	Total	**198**	**100.0**
Student Council	Male	17	77.27
Members	Female	5	22.73
	Total	**22**	**100.0**

Source: Field Data, 2015

From Table 4.2, one hundred and sixty four (82.8%) of the staff respondents were male while 34(17.2%) were female. Also, 17(77.27%) were male while 5(22.73%) SCM were female. This means that data presented was representative of strategies and challenges on both gender in terms of access, retention and promotion of quality education. Gender was important in this study because TTIs are co-educational institutions and therefore the need to include both gender in participation. Thus, the findings therefore applies to both gender

eliminating the would be biased if only one gender was used. Furthermore, the findings applies to both gender which is quite encouraging as per the 2010 Constitution of Kenya which recognizes both gender equality.

Table 4.3

Age of the Respondents

		Frequency	Percent
HoDs & Lecturers	18-25 years	6	3.0
	26-35 years	19	9.6
	36-45 years	105	53.0
	> 45 years	68	34.4
	Total	**198**	**100.0**
Student Council Members	18-25 years	22	100.0

Source: Field Data, 2015

The study findings indicated that majority 105 (53%) of the staff respondents were aged between 36 and 45 years of the total number of respondents. Those aged between 18 and 25 years were the least 6(3%). Staff members aged 26 and 35 years were represented by 19(9.6%) while those over 45 years were 68(34.4%) of the respondents. Among the student council members, all the respondents were aged between 18 and 25 years. Age was an important factor in this study because it was an indicator of the level of maturity and therefore the responses given were considered credible as all were above 18 and in their youthful stages which is normally marked by great interest and the desire to join educational institutions and pursue post school education. That is, post primary and post secondary. At

this age, education is viewed to them as an avenue to success in life and therefore their responses were considered realistic and credible.

Table 4.4

Professionalism of the Respondents

Professionalism	Staff		SCM	
	Frequency	Percent	Frequency	Percent
Electrical/Electronics	4	2.0	10	45.45
Mechanical	21	10.6	2	9.09
ICT	53	26.8	0	0.0
Building and Civil Engineering	72	36.4	0	0.0
Business	25	12.6	5	22.73
Health Sciences	1	0.5	5	22.73
Others	22	11.1	0	0.0
Total	**198**	**100.0**	**22**	**100.0**

Source: Field Data, 2015 **Key: SCM – Student Council Members**

The researcher also sought to find out the areas of professionalism for the respondents, both staff and students. From Table 4.4, seventy-two (36.4%) of the staff respondents were from building and civil engineering department. Fifty three (26.8%) were in ICT while 25(12.6%) were in business department. Mechanical department was represented by 21(10.6%) of the respondents while Electrical/Electronic was represented by 4(2%) of the respondents. Health sciences had 1(0.5%) representation. Other departments which were unnamed had 22(11.1%) representation. Among the SCM respondents, electrical/electronic had the highest representation, with 10(45.45%) while business had 5(22.73%). Health sciences was

represented by 5(22.7%) of the respondents while mechanical was represented by 2(9.09%). Professionalism of staff and students was relevant in this study because the courses offered in the TTIs are professional and therefore responses from different professions were vital in providing in-depth information on access, retention and quality of education in TTIs. Since the representation was good, it means that the study findings were credible.

Table 4.5

Length of Service for Teachers and Year of Study for Student Council Members

		Frequency	**Percent**
Student Council	Year Two	4	18.18
Members	Year Three	18	81.82
	Total	**22**	**100.0**
Staff Members	< 1year	18	9.1
	1-3years	8	4.0
	4-5years	63	31.8
	6-10years	68	34.3
	> 10years	41	20.7
	Total	**198**	**100.0**

Source: Field Data, 2015 **Key: SCM – Student Council Members**

From Table 4.5, majority of the respondents 18(81.82%) were in their final years of study (Year Three) while 4(18.18%) were in year two. On the other hand, 18(9.1%) of the staff member respondents had been teaching in their respective stations for less than 1 year while 8(4%) had been in their stations for a period between 1 and 3years. Majority, 68(34.3%) had been in their stations for a period between 6 and 10 years followed by 63(31.8%) who had been in their stations for a period between 4 and 5 years. Forty one (20.7%) of the staff respondents had been in their stations for a period over 10 years. The length of service and year of study varied which means the variation enriched the responses as the many

dimensions of staff and students were captured by the study. It is important to realize that this is an important factor that enables respondents to provide data that is helpful in investigating and understanding trends in access, retention and quality of education in TTIs.

4.4 Strategies used and Challenges faced by Principals in Enhancing Access in the Technical Training Institutions

The research question responded to was: What are the strategies used by principals and challenges faced in enhancing access in technical training institutes in Nairobi County? The respondents were asked to rate on a five-point scale the strategies used by principals to enhance enrolment in technical training institutes. The results were as shown in Table 4.6.

Table 4.6

Strategies used by Principals to enhance Access in Technical Training Institutes

Strategy	Response	Mean Rating	Overall Mean
Use of former students	HoD	4.3	
	L	3.9	4.2
	SCM	4.5	
Use of continuing students	HoD	3.7	
	L	3.3	3.5
	SCM	3.6	
Use of local media (Citizen TV, Newspapers Radio)	HoD	2.6	
	L	3.4	3.2
	SCM	3.5	
Advertisements at SC DEOs Offices	HoD	2.6	
	L	3.4	2.8
	SCM	2.4	
Advertisement at Chief's Offices	HoD	2.2	
	L	2.6	2.5
	SCM	2.7	
Advertisement at secondary schools	HoD	3.9	
	L	4.2	4.0
	SCM	3.8	
Announcement in churches	HoD	3.4	3.1
	L	2.8	
	SCM	3.1	
Announcement at funeral ceremonies	HoD	2.2	
	L	3.0	2.8
	SCM	3.2	
Advertisement on the institutes notice boards	HoD	3.9	
	L	4.1	3.9
	SCM	3.7	
Use of brochures /Fliers	HoD	3.7	
	L	3.3	3.5
	SCM	3.4	

Admission of students twice a year	HoD	3.0	
	L	2.3	2.9
	SCM	3.4	
Admission of students termly	HoD	4.1	
	L	3.6	3.9
	SCM	3.9	
Use of modular system	HoD	3.6	
	L	4.0	3.8
	SCM	3.8	
Physical facilities	HoD	4.7	
	L	4.8	4.8
	SCM	4.8	
Parental level of income	HoD	4.7	
	L	4.8	4.8
	SCM	4.8	
Career opportunities	HoD	3.9	
	L	3.7	3.8
	SCM	3.9	
Overall mean			**3.593**

Key: **HOD** – Head of Department SCM - Student Council Member **L**- Lecturer

Interpretation of Mean Ratings

Numeric strength	**Practical strength**
1.00-1.44	Least used
1.45 -2.44	Less used
2.45 -3.44	Moderately used
3.45 -4.44	Highly used
4.45 -5.0	Very Highly used

From Table 4.6 it can be noted that use of former students was rated (M =4.2) as a strategy highly used by principals in Technical Training Institutes in enhancing enrolments in TTIs. The former students or trainees are strategically placed in this role. Thus prospective

candidates will and do trust their views about the institutions based on the training experience they had in these institutions. Thus if the institutions were internally and externally efficient they can freely provide such information to the general public and prospective trainees. By internal efficiency and external efficiency it means how well these TTIs meet institutional objectives and the national objectives in terms of enrolment, flow rates and desired skills, knowledge and attitudes.

The excerpts from the principals, students council members and Heads of department attested to these findings. Thus with regard to strategies used the respondents asserted as follows:

> In our TTI enrolment has increased so much majorly because of the alumni. These are specifically former students who serve as ambassadors of their TTIs. These alumni are very proud of their TTI and wherever they are it is all praise for the institution on how the institution provide high quality training that has enabled them to secure jobs with ease. In fact to a large extent our TTI has gained a lot of fame mainly attributed to the former students (HOD/ 4)

> Technical Training Institutes are many, but only a few are recognized. The simple reason for this recognition is the former students. Thus many prospective trainees inquire from graduates of TTIs on which institutions are better. Some former students blatantly discourage students from joining the institutions, where they learned. Some, blame their former institutions for failure in life. They state for instance that the skills offered were irrelevant as they cannot get jobs. On the contrary some graduates are proud of their institutions with fond memories of their former lecturers, principals and fellow alumni. This in itself propels potential candidates into the institutions (SCM /5).

> For me as a principal, I find former students to be very instrumental in marketing my TTI in the wake of the many TIVET institutions that are being created in every sub county. The graduates of my TTI even request for fliers and brochures to effectively market the institution. It is interesting that the alumni go a long way to advertise my TTI at major ceremonies or gatherings, such as weddings, funerals and even in political rallies. On many occasions I have noted former graduates blush at the mention of my TTI. You can imagine if the contrary was true, enrolment would have dwindled (Principal/ 2)

Use of continuing students was highly rated (M =3.5) as a strategy that is used by principals in enhancing enrolment in TTIs. Continuing students are well placed in marketing of TTIs through participation in many activities. These activities include games, sports and exhibitions. Excelling in these activities attract potential students to the TTIs. It is natural that students like associating themselves with successful institutions. Thus those still in secondary and primary schools cherish joining famous institutions where their fellow students have joined and are excelling. Excerpts attest to this.

> I am in this institution pursuing business studies courses because of my predecessors in high school who are in this institution. I would like to move on as they are doing. Definitely without them, I would not have joined this institution. In fact I am socially, emotionally and psychologically satisfied to be in this TTIs. I owe this to my colleagues who are in higher classes (SCM/ 7).

> As a student in this TTI I keep on encouraging my friends and other youth to join us so that we can pursue our dreams. Indeed TTIs offer competent based courses, like mechanical engineering, electricity and electronics. These are courses which are popular because they are suitable for wage employment. In fact one starts earning before he or she completes studies. When I practice this, as a continuing student many other students admire my seniors and joined the TTI (SCM/ 2).

> Being a Principal of this TTI, I can assure you that continuing students are highly valuable in marketing our TTI. They do this by portraying a positive image of our TTI inside and outside the TTI. Nevertheless, there are those who are not proud of this TTI. They simply discourage others since they themselves have a lot of challenges that create a negative attitude. (Principal /2)

The other strategies that were highly rated were advertisement in secondary schools using flyers and brochures (M =4.0); announcements at political rallies; advertisement on the TTIs notice boards (M =3.9); admission of students termly (M =3.9) and use of modular system (M =3.8). Indeed brochures and flyers (M =3.5)are very informative as they contain key information. Depending on the design, they can be very attractive. Furthermore they are

cheap to produce and easy to administer. They can also bestored and used over a period of time. Thus they can be distributed easily on the roads, in institutions, market places, anywhere where most people frequent, like churches, public offices and so on. This was expressed by school principals. The excerpt concerning use of brochures and flyers strategy is:

> Brochures and flyers really worked for my institution. When I reported to this TTI the enrolment was low. When I started marketing the institution using many approaches, it emerged that brochures and flyers worked miracles (Principal/ 1).

The principals' strategy of ensuring adequacy of physical facilities like classrooms, libraries, desks, playgrounds and workshops have direct effect on enrolment, as they attract students. Student feel attracted to T.T.Is with good outlook in terms of infrastructure. That is, they tend to associate good learning and successful training with technical training buildings that are clean, quiet, safe, comfortable and healthy. These findings concurred with those of Gurney (2007) who established that students prefer to enroll in educational institutions with well maintained physical facilities as they impact positively on their academic performance. Ngunzo (2011) on the other hand in a related study in Kisumu Municipality found that school infrastructure had an impact on access to secondary education. That is, modern facilities like laboratories and up-to-date equipment significantly attract and enroll more students and perform better and have large transition rates to university and other colleges than those without. Adeyemi (2008) established that in Nigeria lack of physical facilities compromises quality teaching which affects enrolment in educational institutions.

Owano (1998) is a study titled "Education for employment: The contribution of the youth polytechnic programme to youth employment in Kenya" established that provision of better

equipped workshops, supply of training materials and greater emphasis on practical skills improved the programmes and led to increased access. Republic of Kenya (2002) observed that there existed a wide diversity in terms of enrollment and physical facilities among Technical vocational institutions. Enrolment in business oriented courses and applied sciences far exceeded technical discipline, thus defacing the original objective of establishment of Technical Vocational Education and Training Institutions.

The strategy of principals of factoring in parental level of income and strategizing accordingly was highly rated as a strategy that enhanced access. These findings concurred with those of Keriga and Bujra (2009) who established that students from poor families were more likely to miss school than those from rich families because of failure to pay fees. In these cases principals use bursaries to cushion the students from poor families.

Becker and Tomes (1996) in their study in New York on the rise and fall of families noted that poor families were financially constrained hence could not invest in education of their children. Akale (2007) in a study in Nigeria found that low income of parents could not sustain a child's education in meeting direct and indirect costs. UNESCO (2007) report on Education for ALL noted that two thirds of those that enrolled in educational institutions in Philistine, Bangladesh and Sub-Saharan Africa withdrew before the end of an education cycle due to parents' low income. This is because low family income limits parents' ability to pay fees plus meeting other indirect and hidden costs of education while students' risk repetition and eventually dropout. Ngerechi (2003) established in his study that living below poverty line hindered access and retention in TTIs because most often students are sent home for fees, get demotivated, disinterested and dropout. Ngumbao (2012) in a study on

factors affecting youth enrolment in youth polytechnics in Mombasa County found that there was a direct link between economic status and enrolment rates. When the principals are aware of these challenges, they look for ways and means of assisting the needy, thereby enhancing enrolment.

Career opportunities is one of the strategies used by principals to enhance access in TTIs as it was rated highly. Most students are not aware of career opportunities other than those of their parents and which their parents favour. These findings concur with those of Hewitt (2010) who states that most students are influenced by careers that their parents favour or others follow careers that give high income. This was why access to vocational courses is low because youths feel that taking vocational courses can narrow their employment and educational options open to them while parents lack the confidence to advise their children on vocational career opportunities because they do not guarantee them good jobs that earn high income (Batterham & Levesley, 2011). This findings are supported by Jones and LArke, (2001) in their study in USA on factors influencing career choice of African American and Hispanic students in the college of Agriculture who found that limited job opportunities in agriculture led students to choose other careers.

Needham and Papieris (2011) study also concur with these findings as it established that in South Africa some students in the urban areas felt that vocational qualification would result in low salaries and learning pathways that excluded them from further studies. Myburgh (2005) study also supports these findings as it also established that in South Africa factors that influenced career choice of accounting students at the university of Pretoria were availability of employment, level of income and employment security. In Kenya the scenario is not different for instance Ngunjiri (2013) found that most families

struggle to meet basic needs and hence money and material rewards are important determinants of career choices. Careers that offer high living standards in terms of monetary and material rewards are attracted to many students thereby influencing enrolment. Mursoi (2013) in a study in Eldoret West District, Kenya on assessment of factors that influence secondary school students' perception towards TTIs, established that their perceptions towards TTIs courses were shaped by views of parents, teachers, counselors, peers and their academic achievement.

It is important to note that interview findings indicated that most of the SCM respondents learnt about their current institution through former students while less of the SCM respondents learnt of their institution through ongoing students at their time of enrolment. Likewise, the researcher sought to establish the involvement of students in marketing their institution and whether they were rewarded for any student they successfully managed to enroll. Among the staff respondents, a few of the respondents stated that students were involved in marketing the institution but not always rewarded for their work. However, a reasonable number of the respondents opined that students were involved in marketing but were never rewarded for their efforts. Among the SCM respondents, almost half of the respondents stated that they were never involved in marketing activities and as such were never rewarded. However, about one third stated that they were involved in marketing the institution but were never rewarded. A small number stated that they were at times rewarded for their efforts. The study also established that all the three institutes that participated in the study admitted students on a termly basis. This was evidenced as majority of the staff respondents and about half of the SCM respondents attested to this. However, a small

number of the staff respondents and SCM respondents felt that admission of new students was conducted twice annually.

Interview sessions with the school principals revealed that the institutions had an elaborate marketing policy which gave roles to all stakeholders including students. However, they confirmed that it was not always feasible to include students in their marketing activities given that students were actually meant to study and not all of them were always available for marketing activities. This was further reinstated by one of the principals in an interview who stated that:

> "…definitely, our institute has a clear marketing strategy that even the government has approved. It is impossible to market our school without students, but consider the actual role of the students… if we decide that we should always involve them in marketing and we should always reward them then it will be war! …most of them will fight to be in the marketing team and always expect something at the end of it, which is not realistic… besides, the schools budget cannot always afford this kind of expenditure…" (Principal /2)

Both the students and the lecturers gave their opinion on how the principals should enhance enrolment of learners in their respective TTIs. Responses from the lecturers indicated that they were of the opinion that principals should strive to reduce school fees and enhance the adverts on social media which is widely accessible to most target students; provide alternative sources of fees funding for needy students; make follow-up on students who have applied but have not responded to invitation to begin their studies; increase number of competitive academic programs; collaborate with other institutions of higher learning for program diversity; re-enrol students who had dropped out of school; collect information

about current trends in colleges; introduce and enhance work-study programs to accommodate needy students and; make programs flexible to working students

The literature reviewed concurred with the findings of this study as it indicated that enrolment in higher education should be constantly managed. Particularly Jones (2003) and Engel (2012) opined that institutions should, alongside the other policies, formulate and implement student enrolment management policies. These policies would define the most appropriate marketing strategies to enhance student enrolment. Further, these policies should state the benefits attached to marketers in institutions as motivators and retainers in the marketing activities.

Zhao and Kuh (2004) argue that to optimize success, institutions must use research and planning to identify and target students, develop programs to meet those student's' goals, then follow through with strong, personalized recruitment and enrollment efforts. They further state that some institutions may choose to implement a complete marketing and recruiting solutions to most efficiently and effectively make use of valuable resources. Kuh *et al* (2005) also argue that to successfully draw students, new program offerings must align with three data-based objectives: 1) applicant goals, 2) the institution's brand identity, and 3) the job market. This brings into light the fact that institutions must build brands out of their operations and programs, which should be further aligned to the job market so as to attract qualified students from within their catchment areas.

On the other hand, Bozick, Gonzalez, and Engberg, (2012) have opined that alternative sources of funding such as bursaries and scholarships to deserving students are able to attract

more able students to institutions and retain them to the completion of their studies. The findings indicated that no institution that participated in the study indicated whether there were scholarships for deserving students. There were no alternative means for financing students other than self, sponsors, guardians or parents. Considering the economic hardship facing most people, it is reasonable to assume that availability of scholarships or alternative means of education financing in TTIs would further enhance enrolment and retention of students.

While it is evident from the data collected that all the TTIs that participated in the study have various marketing strategies with a standing marketing department, their impact on enrolment is minimal compared to the associated costs. The effort put in marketing has seldom translated to results. This could possibly be due to the use of ineffective approaches with minimal attraction impact on potential students or sponsors to marketing. From the findings, it was established that TTIs in Nairobi sometimes collect data during student registration and admission. This data entailed the avenues through which the new student accessed information about the TTI. However, this strategy has yielded minimal fruits as enrolment has steadily declined in the recent past. While it is expected that the data collected during new student registration would enable marketers to plan for effective marketing and identify marketing avenues that were more effective so as to allocate more resources towards such approaches, no respondent in the study stated how this data is used to enhance enrolment or marketing. It is therefore established that the data collected as feedback during new student registration was of minimal use to the institution and that this data actually does not affect how marketing is carried in these institutions neither does the data impact enrolment in any way. Hence, there was no any marketing policy formulated or implemented

in the TTIs that participated in the study. This was not in line with Engel (2012) or Jones (2003) who opined that student enrolment is enhanced when marketing policies are formulated and managed effectively. Despite the fact that there was literature on influence of individual variables on access to TTIs, the strategies used by principals had not been addressed, the gap this study addressed.

The study also investigated challenges faced by principals in enhancing access in TTIs. (Table 4.7)

Table 4.7

Challenges faced by Principals in enhancing Access in Technical Training Institutes

Challenge	Respondents	Mean Rating	Overall Mean
Access			
Communication prior to admission	HoD	4.4	
	L	4.3	4.3
	SCM	4.2	
Orientation of new students	HoD	3.8	
	L	3.9	3.5
	SCM	2.8	
Placement services for previous students	HoD	4.2	
	L	3.9	4.0
	SCM	3.8	
Pass rate	HoD	4.8	
	L	4.7	4.6
	SCM	4.2	
Boarding facilities	HoD	4.3	
	L	4.8	4.7
	SCM	4.9	
Facilities for co-curricular activities	HoD	2.9	
	L	2.4	2.7
	SCM	2.9	
Overall Mean			**3.97**

Key: **HOD** – Head of Department SCM - Student Council Member **L**- Lecturer

Interpretation of Mean Ratings

Numeric strength	**Practical strength**
1.00-1.44	Least challenge
1.45 -2.44	Small challenge
2.45 -3.44	Challenge
3.45 -4.44	A bigger challenge
4.45 -5.0	Biggest challenge

From Table 4.7, it can be noted that communication prior to admission was rated a bigger challenge faced in enhancement of access in TTIs (M =4.3). This was because of several factors which included poor communication network, change of communication modes and phone numbers. Interview findings concurred with these findings. The principals of TTIs were emphatic that communication was a real challenge. They indicated that a number of students had failed to join the institutions because of failure to receive joining instructions. The following are the excerpts on access with regard to communication as a challenge.

> Communication to prospective students to a large extent negatively affects enrolment. This is because the prospective students receive letters inviting them to join the institutions late. This is attributable to delays in delivering of joining instructions by the institutions and even agencies that deliver. Lack of commitment by the prospective students in checking for the expected mails is another obstacle. For instance some candidates check in the postal boxes once in a month or so (Principal/ 3).

> Communication is key in enrolment. Some institutions take it for granted that they are known and therefore little need for paying attention to the attention it deserves. In fact some institutions heavily rely on the mode of communication, namely post office ordinary delivery mode. Their mode of delivery is slow and prone to losses of mails. It does not guarantee delivery as it lacks tracking devices. Most principals use it because it is cheap. Those institutions that courier agencies succeed as the delivery is somewhat reliable. In fact some institutions not only use couriers but also us print and electronic media such as Citizen TV, Radio, advertisement. This indeed has proved to be very successfully though expensive (Principal/1)

The quantitative data and qualitative data concurred. They also concurred with the findings of Ngome (2003), who indicated that communication plays a significant role in enrolment of students in TTIs among other factors.

Pass rate was rated as one of the biggest challenges principals face in their endeavours to promote access in Technical training institutes (M =4.6). That is, in programmes where performance is very good enrolment is quite high. For instance it was observed that

programmes such as business studies; and Information Communication and Technology (ICT) had generally high enrolment to the tune of about 80 and above. However, in programmes like electrical and electronics; and mechanical engineering, enrolment was as low as just about 15 due to mainly high failure rate. This is because students access education in TTI, with a view of passing and not failing. In away pass rate is a very significant factor in marketing of TTIs. Naturally, students would prefer to enroll in a TTIs that has a high pass rate which somewhat guarantee them a pass in summative evaluation. Hence avery big challenge as many TTIs do not perform well, particularly in Technology and engineering courses.

Boarding facilities were rated as the biggest challenge (M =4.7). This is mainly because the government no longer supports construction of boarding facilities yet they are very important in enhancing access. They enhance access because many students need accommodation to learn and train in these institutions. Infact the mere fact that they are in the city, which is the seat of the government, inspires most candidates to obtain their training in them. These findings concur with interview findings as signified by the following excerpts relating to challenges faced with regard to access and boarding facilities.

> There are many candidates from rural areas who wish to enroll in city TTIs but have nowhere to reside. This compels us, as principals to go out of our way and make local arrangements with the local community to avail such facilities. However, this is also compounded by escalating costs which to many students are not affordable. The consequences are that many students fail to access education in these TTIs. By the way it is not only the rural candidates who are affected, but also those in Nairobi, due to other factors such as transport intrigues or logistics (Principal/2).

Previously the government supported provision of boarding facilities, then access was high but when boarding facilities were declared by the government as not a priority, enrolment has

declined. Indeed boarding facilities create a conducive environment for learning. It is for this reason that Kenyans cherish boarding institutions. Thus besides training they provide for basic services, such as medical and guidance and counseling, socialization is another factor that is inherent in boarding facilities.

As regards retention, boarding facilities were rated as the biggest challenge (M =4.6). Indeed most trainees in TTIs, prefer boarding particularly in Nairobi, the seating of government where living is hectic, ranging from housing to transport. Boarding facilities enable students in TTIs to undertake their training with ease and hence stay on until they are through with their training. Hence scarcity of these facilities pose great challenges to retention of students' in TTIs. This was evident in the following excerpts with regard to retention and boarding facilities.

> It is an open secret that boarding facilities pose a great challenge to principals in retaining students in the many programmes. Thus the demand for accommodation is overwhelming and the scarcity of which devastates the principals. This makes the principals very challenged which they realize that it is the main cause of students dropout. As principals we are saddened by inadequacy of boarding facilities that adversely affect retention of trainees (Principal /3).

> There is no doubt that boarding facilities present great challenge to principals, with regard to students' retention in TTIs. First TTIs programmes are competence based requiring practicals. Therefore trainees can only benefit more when they are accorded opportunities to have hands-on more when they are accorded opportunities to have hands-on most of their time during training period. This implies that for trainees to benefit more and complete their courses, boarding facilities are handy. But since they are scarce, they are a big predicament to TTI principals. Infact in my TTI it is one of the biggest challenges. As for my case this makes me to shop around for accommodation for my students' particularly new comers (Principal /1).

The overall mean was 3.97 which means that the challenges faced by principals in enhancing access were of great concern as the magnitude of the challenge was high.

4.5 Strategies used and Challenges faced by Principals in Enhancing Students Retention in Technical Training Institutes

The research question responded to was: What strategies are used by principals and challenges faced in retention of students in technical training institutions in Nairobi County? The heads of departments, lecturers and SCM's responses were as follows:

Table 4.8

Strategies used to enhance Retention in Technical Training Institutes

Strategy	Respondents	Mean Rating	Overall Mean
Orientation during enrolment	HoD	2.9	
	L	3.5	3.2
	SCM	3.3	
Financial assistance	HoD	4.4	
	L	4.8	4.7
	SCM	4.9	
CDF sponsorship	HoD	2.8	
	L	3.4	3.0
	SCM	2.9	
Teaching Learning Resources/Exhibition	HoD	4.4	
	L	4.5	4.6
	SCM	4.8	
Boarding Facilities	HoD	4.5	
	L	3.6	4.1
	SCM	4.2	
Fees charged	HoD	4.8	
	L	4.6	4.8
	SCM	4.9	
Arrangements for accommodation by TTIs	HoD	3.9	2.8
	L	2.1	
	SCM	4.5	

Quality of teaching	HoD	4.6	
	L	4.7	4.6
	SCM	3.5	
Quality of service delivery /Co-curricular activities	HoD	4.4	
	L	4.2	4.0
	SCM	4.1	
Tuition facilities	HoDs	4.3	
	L	4.5	4.3
	SCM	4.1	

Key: **HOD** – Head of Department **SCM** - Student Council Member **L**- Lecturer

Interpretation of Mean Ratings

Numeric strength	**Practical strength**
1.00-1.44	Least used
1.45 -2.44	Less used
2.45 -3.44	moderately used
3.45 -4.44	Highly used
4.45 -5.0	Always used

From Table 4.8, it can be noted that principals of TTIs always use financial assistance (M =4.7), teaching /learning resources (M =4.6), fees charged (M =4.8) and quality of teaching (M =4.6) strategies in enhancing students retention.

Financial assistance and affordable fees charged enhances students retention by making T.T.I education affordable. In fact fees has been found to be the key factor in maintenance of students in TTIs. Although the government subsidies student fees, it remains a big challenge amid many other factors like student attitude and so on. The financial assistance is provided

by CDF funding and bursaries for the needy and bright. HELB loans are also available. Thus students have no excuses whatsoever for not continuing with their education.

The following excerpts on financial assistance and fees charged support these findings.

> I am in this TTI courtesy of HELB loan because I come from a very poor family where nobody is earning a wage or salary. In fact what I did would just to apply to this TTI using money borrowed from friends. On arrival in the TTI the principal advised me to apply for HELB loan, which fortunately succeeded. Since that time I always apply and receive. It is really a motivating variable for me to continue with schooling (SCM/ 6).

> In this TTI at least one third of the student population depend on either CDF funding, bursary awards or HELB loans. This mode of financing technical education is quite successful as students are sustained on it. This is much more so because technical education to many youths is a luxury, and can easily dropout with the slightest excuse. The principals should therefore take a initiative in helping students secure these funds if he/she has to attract and maintain students in the TTI. In fact those principals who have not taken this initiative seriously, retention in their institutions has declined (HOD/ 1).

> As a lecturer in the TTIs of long standing I can for sure assert that financial assistance and fees charged determine the retention rate of students in the TTIs remember without finance not can be accomplished in any organization. Therefore TTIs are not exceptional. Technical education is dawn expensive and therefore a principal worth his salt cannot retain students who have not paid fees. It is therefore incumbent for his/her to boost retention by facilitating students to receive the funding (Lecturer/ 7)

Quality teaching and teaching learning materials are vital in student retention. In this respect teacher quality implies quality education. The teacher is the central factor in quality education and quality education is cherished by all. Students will endure to remain and continue with their studies in TTIs which have reputation for quality education. This is because they are assured of acquiring skills and knowledge that they intended to. Learning are also important in motivating students to take their studies seriously and they cannot envisage dropping out.

These findings were supported by the following excerpts on Quality teaching and teaching materials.

> For any education system, quality inputs guarantees quality output which is the lifeline of TTIs. TTIs programmes are competence-based and therefore, for any student to pursue his or her education to his or her fulfillment, quality teaching and quality teaching materials are precursors. In our TTIs most students have persisted with their learning because of the assurance that they will achieve their aspirations as evidenced in quality teaching and quality learning materials (HOD/4).
>
> No student on joining a TTI that was quality teachers and quality learning materials can think of dropping out. Instead many students have come from other TIVET institutions because of the fame our TTI has in terms of quality teaching and facilities available. In fact the students we started with are sticking together and we shall graduate together, God-willing (SCM/ 6).
>
> I am not after praising our TTI, but one clear fact is this, quality teaching in this institution of ours has done us proud. Students, who are admitted persist with their education and as such our graduates are always many. In fact students seeking financial assistance easily seemed because institutions are aware that their resources are not wasted. This in turn boosts retention rate (Lecture/ 8).

Boarding facilities, quality service delivery and tuition facilities were highly used as strategies in enhancement of student retention. Boarding facilities expand the catchment areas. This is because students who come from other sub counties can comfortably pursue their education to the end without fear of accommodation facilities.

The strategies used by principals to enhance retention of students concur with best practices in student retention attributed to Tinto's (1975) model of student retention. There are many reasons for student attrition and therefore many strategies for student retention. Tinto's (1975) model is highly publicized. It hypothesizes that the degree to which a student interacts with academic and social communities at university directly correlates to his or her likelihood of finishing college. Thus Tinto (1975) states:

> Given individual characteristics, prior experiences, and commitments it is the individual integration into the academic and social systems of the college that most directly relates to his continuance in that college. Given prior levels of goal and institutional commitment, it is the person's normative and structural integration into the academic and social systems that lead to new levels of commitment. Other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution and to the goal of college completion p. 96.

The type of integration to which Tinto (1975) alludes involves long line of interconnected factors that help determine student satisfaction at the University, herein stated as strategies which students no longer feel connected to their T.T.I in any way they are likely to withdraw themselves from the academic community.

During interviews with HODs, SCM and Lectures, it was apparent that the following factors affected retention; family background in terms of financial status, education, entry behaviour, attractiveness of the institution, peers, lecturers and management style. These interview findings concurred with those of National Centre for Education Statistics (NCES).

National Centre for Education Statistics (2007) identified the following characteristics associated with persistence or attrition. First, enrolment intensity in terms of full-time, part-time or mixed, play a role in whether students remain enrolled, transfer or dropout altogether. In their study they found that in four year institutions students listed as "always part-time" 65.2% left the institution within three years. This is compared to 27.1% of the student listed as "full-time" and 40.5% of the students listed as mixed (combination of full-time and part-time). Interview findings were consistent with these findings.

Another interesting finding was that higher percentage of males left the institution (34.2%) than females (28.4%). Further in terms of age, younger students were less likely to leave. For example, 27.2% of students aged 18 years or younger at the time of enrolment left within three years while 50.1% of individuals 30 years or older made that decision. This findings were also in agreement with interview findings. This may be attributed to aspirations in life. The younger ones are more keen to complete studies and get certificates which to them are passports to good life.

Dependency status was found to be a student characteristic that influenced retention according to SCMs and HODs. NCES (2007) on the other hand established that 28.6 percent of those who were listed as dependent in their first year of enrolment left the institution within three years, compared to 49.1% of the independent students, single parents were the most likely to leave (52.5%) followed by unmarried (48.2 percent) and married (46.2%) students.

NCES (2007) revealed that parents' education was another important factor with regard to retention. Forty point seven percent of students whose parents had a high school education or less left college within three years, while only 34.2% of students whose parents had some post secondary education and 25.3% of students whose parents had a bachelor's degree or higher left the institution. Interview findings agreed with these findings.

Finally, among dependent students, those with lower family incomes were more likely to leave. Thirty eight point eight percent of students whose families had an income of less than $ 32,000 left within three years, while 24.0% of students whose parents made $ 92,000 or more did so. These findings were also supported by interview findings.

All these findings give a clear picture of the low retention rate. This is because principals of the TTIs that were used in the study did not adopt this model. If the model is adopted, then there retention rate can improve. Nevertheless, notwithstanding the tenets of this model, the government policies cannot allow such a model to be adopted, at least for public TTIs. All in all Tintos (1975) model provide practical strength of the factor or strategies that can be used by principals to enhance retention in TTIs.

It is important to note that principals use different strategies in enhancing students retention in TTIs. One such strategy was orientation which was indicated as key as most of the staff respondents and SCM respondents attested to this. Boarding facilities were also found to enhance retention as most of the SCM respondents and the staff respondents agreed with this opinion but confirmed that the accommodation facilities in their respective institutes were inadequate. Both the SCM and staff respondents confirmed that students were likely to persist with their studies if they were given financial aid. The study also established that student accommodation was likely to impact on retention as most of the staff respondents and SCM respondents agreed with this opinion. Facilitation for CDF/bursary application was also rated as a likely factor that can influence student retention as most of the staff respondents and SCM respondents attested to this. The respondents confirmed that their TTIs had inadequate teaching resources which negatively influenced retention of students. Most of the staff respondents and SCM respondents opined that the amount of fees charged had influence on the retention of students in TTIs, arguing that affordable fees were likely to encourage poor students to persist with their academic pursuits.

Interview sessions with the principals also revealed that accommodation facilities, financial assistance and affordability of fees were key in enhancing student retention. A principal who participated in this study through an interview stated that:

> "…although there are few students who would like to have their own alternative accommodation elsewhere, most students would automatically want to be accommodated since this reduces their worries about food and shelter… …but again the issue of fees come into play. Not all students are financially endowed equally. …those with financial challenges would like to be facilitated so as to access financial assistance from kitties such as CDF, HELB and bursaries from the Ministry of Education. If the school can facilitate access to such, then students are likely to worry less about fees… the institute can also charge affordable fees or even give grants to poor but bright students so as to ensure that they do not drop out of school…" (Principal /1

Various studies by Law, (2014), Coly, Coly and Lynch-Holmes, (2016), Curme, Haynes, Kabbaz and Sauter, (2013), Warn, (2015) and Arnold, (2000)indicated that school administrators can help students stay in school by providing them with the appropriate funding, academic support services, and the availability of physical facilities, in addition to the effective management of multiculturalism and diversity on campus. Faculty members can help maintain a positive learning environment for students by using multimedia technology and innovative instructional techniques such as cooperative and collaborative learning in the classroom. Ultimately, the success of college retention depends in the students themselves. Therefore, students must be motivated to participate actively in their own learning process.

Despite the fact that there was literature on variables that influence retention of students in TTIs the use issue of strategies used by principals to enhance retention of students in TTIs had not been dealt with. This is the knowledge gap that this study attempted to fill.

The study further investigated challenges faced by principals in enhancing retention of students in TTIs (Table 4.9).

Table 4.9

Challenges faced by principals in enhancing Retention in Technical Training Institutes

Challenge	Respondents	Mean Rating	Overall Mean
Retention			
Accommodation	HoD	4.7	4.5
	L	4.7	
	SCM	4.2	
Boarding facilities	HoD	4.8	
	L	4.5	4.6
	SCM	4.4	
Tuition facilities	HoD	4.2	
	L	4.5	4.4
	SCM	4.4	
Teaching /learning resources	HoD	4.9	
	L	4.2	4.6
	SCM	4.8	
Teaching staff	HoD	3.4	
	L	3.5	3.7
	SCM	4.2	
Pass rate	HoD	3.4	
	L	2.9	3.5
	SCM	4.1	
Overall Mean			**4.22**

Key: **HOD** – Head of Department SCM - Student Council Member **L**- Lecturer

Interpretation of Mean Ratings

Numeric strength	Practical strength
1.00-1.44	Least challenge
1.45 -2.44	Small challenge
2.45 -3.44	Challenge
3.45 -4.44	A bigger challenge
4.45 -5.0	Biggest challenge

Teaching /Learning resources and tuition facilities were rated as biggest and bigger challenges respectively to principals in retention of students in T.T.Is (M =4.6, M=4.4). Teaching /Learning resources motivates students in focusing on their studies as to a large extent guarantee good performance. This in effect motivates retention as most students know that finally they will achieve their objectives. Conversely in the absence or serious inadequacy of the basic learning resources, most students would easily give up training and eventually quit, that is drop out which is a big challenge to principals' as the ultimate objective is to retain students until they complete their studies. In this regard one of principals asserted:

> If any principal wants to have high retention rate in his/her TTIs, then he or she must be prepared to put in place the desired teaching /learning resources. This is because lecturers and students heavily rely on Teaching /learning resources in enhancing the learning outcomes. Once students are somehow assured of these resources, the chances of persisting with their training in the institution is high. In the absence of these resources, principals are highly disturbed as there is no assurance students will pass and hence easily dropout (Principal /2).

Teaching staff and pass rate too presented a challenge to principals with regard to retention. The adequacy of staff and high pass rate definitely encourages learner participation in training with hope that their vision will be achieved. These two factors become challenges to principals in enhancing retention when they are wanting. Indeed in TTIs these two factors are wanting particularly in technical disciplines. The following excerpt attests to this.

> In my TTI, the student population keeps on fluctuating and more so, declining. In our performance contract, we project increase in enrolment by having high retention rate, but what happens in reality is due to low pass rate and particularly in engineering courses and inadequate staff in these areas, students just disappear without giving notice. Guidance and counseling has been used over and over but there is little change. Some of the students who have left, have actually cited these two factors as reasons for discontinuing their studies (Principal/ 1).

Overally, challenges faced by principals in enhancing retention in TTIs were rated as 4.22 meaning that they were of high magnitude and therefore adversely affected retention.

4.6 Strategies Used and Challenges faced by Principals in enhancing Quality of Education in Technical Training Institutions

The research question responded to was: What strategies are used by principals of T.T.Is and challenges faced in Nairobi County to enhance the quality of education offered. The HODs lecturers and Student Council Member (SCM) responses were as shown in Table 4.10.

Table 4.10: Strategies used to enhance Quality of Education in Technical Training Institutes

Strategy	Respondents	Mean Rating	Overall Mean
Acquisition of skills to secure job in market	HoD	4.4	
	L	4.6	4.5
	SCM	4.5	
Benchmarking against other institutions	HoD	4.2	
	L	4.1	4.0
	SCM	3.7	
Lecturer's concern for student pass rate	HoD	4.7	
	L	4.6	4.5
	SCM	4.2	
Management endeavours to improve quality of education	HoD	4.6	
	L	4.2	4.2
	SCM	3.8	
Class attendance by lecturers	HoD	4.7	
	L	4.8	4.8
	SCM	4.8	
Laboratory and workshops	HoD	3.6	
	L	4.2	4.1
	SCM	4.4	
Equipment and materials	HoD	4.4	
	L	4.5	4.1
	SCM	3.4	
Textbooks	HoD	4.4	
	L	4.8	4.5
	SCM	4.2	

Optimal use of facilities	HoD	3.8	
	L	4.5	3.9
	SCM	3.3	

Key: **HOD** – Head of Department **SCM -** Student Council Member **L-** Lecturer

Interpretation of Mean Ratings

Numeric strength	**Practical strength**
1.00-1.44	Least used
1.45 -2.44	Less used
2.45 -3.44	Moderately used
3.45 -4.44	Highly used
4.45 -5.0	Always used

From Table 4.10, it can be noted that the strategies that were always used to enhance quality of education in TTIs were acquisition of relevant skills (M =4.5) to secure jobs (M =4.5), lecturers' concern for students pass rate (M =4.5), class attendance by lectures (M =4.8) and textbooks.

Quality education is measured by the degree of relevance of skills acquired and knowledge imparted. Thus when the education acquired is relevant, it means it matches the individual needs and those of the society. Such education offered, is based on a curriculum that is developed based on the needs of the society as a whole. It is therefore true that acquisition of skills to secure jobs enhances quality education when the practices are frequently in place as planned. In this case this strategy is an indicator of quality education offered. In this respect one of the HODs asserted:

> Technical Training Institutes that are known to provide quality education have persistently emphasised and practised acquisition of relevant skills that assures their graduates of jobs in the labour market. Where this strategy is not used optimally the quality of education in TTIs has been found to be wanting (HOD/2)

The SCMs on the other hand were of the view that acquisition of relevant skills depends on other factors that the principals usually put place. These factors include facilities and textbooks. SCMs excerpt on acquisition of skills illustrates this fact clearly.

> Acquisition of relevant skills for the job market is usually a product of a number of educational inputs. These educational inputs include quality time dedicated to them by both students and lecturers. The other factors being training facilities, middle level workforce such as technicians, students, lecturer ratio and of course quality of lecturers and students (SCM/3).

These findings are consistent with the assertion by the government of Kenya (Republic of Kenya, 2012) that properly skilled human resources are an asset to effective management and utilization of both resources for increased productivity. Effective management and enhanced productivity requires a well-trained and healthy human resource that is productively employed. This in effect enhances quality of education as the societal objectives are achieved reflecting external efficiency of TTIs. This means that Technical and Vocational education and training ensures the graduates of TTIs future membership of the society and their active participation in its maintenance and development. The skills help a person to get self employment, which contribute to individual's advancement economically and socially through individual capabilities (UNEVOC /UNESCO, 1989).

The evidence from the newly industrialised countries that TTIs is largely responsible for providing a pool of skilled human resources essential in critical areas of the economy such as agriculture, manufacturing, construction, communication, transport and commerce motivates the increased need to have quality education by adopting the noble idea of

acquisition of skills that sells in the labour market. It is therefore for this reason that this strategy is being used by principals of TTIs (UNESCO, 1997).

Lecturers' concern for students was rated as a strategy that was always used by principals to enhance quality of education. This means that it was one of the most influential strategies. Lecturers are in-loco-parentis and therefore very influential. They are role models to their students and this really enhances quality education, as most of them are of high academic standards. The quality of lecturers reflect the quality of education offered in the institutions. In fact for one to be recruited to teach in T.T.I, the minimum requirement is higher diploma. Majority of lecturers in TTIs are graduates, a small number is higher diploma holders.

In this respect one of the HODs remarked:

> It is the lecturers concern for students that motivates the trainees to work harder to excel. Most of the students are heard in low and high tones asserting that they will strive to work harder to reach or exceed their lecturers levels of education (HOD/5).

Class attendance by lecturers was rated as a strategy always used by principals to enhance quality education in T.T.Is. Class attendance by lecturers who are trainees is key to the success of the T.T.I training. Full attendance translate to quality education because content is covered as required and timely. In any academic programme contact hours are vital. In fact programmes are developed in terms of hours. When the programmes fail to be conducted within prescribed time frame, it mean no quality education was offered. Quality of education is also measured by content coverage indicators in terms of knowledge, skills and attitudes.

Pass rate is an indicator of quality education. It also enhances quality education. In TTIs it was rated as a strategy always used by principals in enhancement of quality education. Pass rate influences quality education in TTIs because most students want to be part of the success story of the institutes and are proud of being known or acknowledged alumni. Pass rate is highly influential because the entire community of the TTIs work toward fame of their institutions and the common objective is to excel. The drive to excel is pursued by virtually all institutions, be they schools, hospitals, armed forces, colleges or universities. Excellence cannot be divorced from hard work, being responsible, focused, industrious, smart and accountable; which are all but indicators of quality education. Relevance and adequacy of textbooks was rated as strategy that principals always use in enhancing quality of education in TTIs.

Laboratory equipment and materials were rated as highly used by principals to enhance quality of education in TTIs. Programmes in TTIs are competence based and therefore it is laboratories, equipment, materials and workshops that can guarantee quality education when other factors are held constant. These findings concur with those of UNESCO (2012) which asserts that teaching and learning process practically and its effectiveness is a measure of quality of any TTIS programme.

Quality facilities and equipment are fundamental to the provision of quality and relevant to TTIs education. UNESCO (2000) affirms that availability of a range of teaching and related equipment supplies, furniture and various forms of printed media for teachers and learners is crucial in facilitating the process of teaching and learning worldwide.

The finding that training equipment and facilities help trainees to develop knowledge and skills for trainees agree with Jameson, Dane and Lippman (2005) who established that there was a link between school infrastructure and student performance, though at best unquantifiable it is also important to note that educational infrastructure for TTIs programmes like Building and Construction, electrical and electronics, Fashion and design among others are more specific in purpose for preparing students to enter the workforce with a set of specific technical skills. It is the core function of management to ensure that there is practical spaces that are miniature versions of eventual work environment that students are likely to enter upon completion of training. Laboratories and workshops that stimulate actual work settings can contribute to students achievement and it is the physical environment that properly prepare students for employment. This expression concurs with Jamson (2000) who established that physical environment influences how a teacher constructs learning activities to the best benefit of the students. Besides, specialised or defined provides for students to develop critical thinking and problem solving abilities, practice pertaining skills and gain hands on experience with industry equipment (Washington, 2007; Wolf, 2002).

Management endeavours to improve quality of education and optimal use of facilities were rated highly as strategies used by principals to enhance quality technical education. It is a fact that when management is committed to quality education, it puts in place what it takes to provide quality education. The years when TTIs have excelled is a demonstration of the application of these strategies as they are in concurrence.

From interview findings, majority of the respondents confirmed that the libraries in the institutes were adequately stocked with relevant books as most of the respondents confirmed this. However, a small number of the SCM respondents did not know whether the libraries were adequately stocked. A few of the SCM respondents also confirmed that the student population the sampled institutions also used the availed facilities for their own benefits. Most SCM also stated that the students benefited from their tutors who were most of the time available to assist them with class work. The SCM members also stated that the students in the sampled institutes also greatly benefited from the workshops in the school as most of the respondents attested to this. Most of the Student Council Member respondents stated that the teacher to student ratio was 1:20 on average. This was a crucial indicator that the student population in the sample TTIs was low. However, most of the SCM respondents confirmed that teachers did not attend their classes regularly. On the other hand, a reasonable number of the SCM respondents stated that the labs and training equipment were adequate while a small number stated that they were not adequate. Also, a reasonable of the SCM respondents stated that they rarely went for field trips and other academic trips. Most of the SCM respondents also stated that they were imparted with skills that were relevant and enabled them to compete effectively in the job market and secure jobs. Most of the SCM respondents stated that their institutions either rarely or did not benchmark against other institutions for quality and performance. Most of the SCM respondents confirmed that the teachers were very concerned with the student pass rate and that the institutes` management always endeavoured to improve the quality of education in the TTIs.

Interview carried out at the institutes, involving principals revealed that their institutions were adequately stocked with relevant books and journals. However, they noted that most

students have not been able to cultivate the culture of reading beyond their syllabus coverage and in most cases ignored the journals which were equally resourceful in as far as emerging issues in technology are concerned. The following is a transcription from one of the interview sessions with a principal from one of the sampled TTIs.

> "…you know, most of our books might be old, but that does not mean they are appropriate for use…. knowledge 50 years ago is the same knowledge today. But to cut a long story short, our students have a poor reading culture that does not enable them to read beyond the laid out scope… we have journals, for example, that are very resourceful when it comes to emerging trends in technology, but how many do bother to access them?... very few! …and so you are likely to come across so many of them saying there are very old books in the library which have very information… …I guess you`ll be able to make your own judgement in such a case…" (Principal /2)

Further, the study established from the interview sessions that there could have been inadequate lecture halls, labs and workshops which further hampered service delivery. However, most teachers had come up with ways to handle simple lab/workshops where they would arrange for the labs to be carried out in class or during weekends. In other instances, the lecturers would arrange and share the few labs and other resources that were available.

Edmonds (1982) and Robinson, Lloyd and Rowe (2008) see the attainment of educational excellence or quality education in institutions through students' mastery of basic skills and the art of independent. Goodlad (1984) on the other hand, stressed the overall educational progress of students or pass rate through the promotion of students' academic, intellectual, vocational, socio-civic, cultural and personal development as key measures of effective schools.

The study further investigated challenges faced by principals in enhancing quality of education in TTIs in Nairobi County. The responses by HODs, Lecturers and SCMs were as shown in Table 4.11.

Table 4.11

Challenges faced by Principals in enhancing Quality of Education in Technical Training Institutes

Challenge	Respondents	Mean Rating	Overall Mean
Quality of Education			
Teaching staff	HoD	4.2	
	L	3.8	4.3
	SCM	4.8	
Entry behaviour of students	HoD	4.8	
	L	3.8	4.4
	SCM	4.8	
Textbooks	HoD	4.4	
	L	4.8	4.4
	SCM	3.9	
Laboratory & workshop facilities and equipment	HoD	4.7	
	L	4.8	4.5
	SCM	3.9	
Students' discipline	HoD	3.7	
	L	4.4	3.9
	SCM	3.6	
Teaching methods	HoD	3.7	
	L	4.6	4.2
	SCM	4.4	
Formative evaluation	HoD	4.3	
	L	4.6	4.4
	SCM	4.2	
Summative evaluation	HoD	4.2	
	L	3.7	4.2
	SCM	4.8	
Overall Mean			**4.29**

Key: **HOD** – Head of Department SCM - Student Council Member **L**- Lecturer

Interpretation of Mean Ratings

Numeric strength	Practical strength
1.00-1.44	Least challenge
1.45 -2.44	Small challenge
2.45 -3.44	Challenge
3.45 -4.44	A bigger challenge
4.45 -5.0	Biggest challenge

Quality education as signified by quality grades is a concern for principals and challenges for principals in TTIs pertaining to quality education were revealed as follows.

Laboratory, workshop facilities and equivalent were indicated as bigger challenges that principals face in TTIs in their endeavours to enhance e quality education (M =4.5). Thus most laboratories and workshops are not well equipped yet, programmes in TTIs are competent e-based. Principals and tutors yearn for well equipped laboratories and workshops, in most instances to no avail. It is challenging because the desired skills and knowledge cannot be developed without these facilities. Potential employers look upon TTIs in providing the desired skill labour. With these facts in mind principals find themselves highly challenged. They blame these challenges on poor funding by the government. Nevertheless, they are rated on the basis of these facilities which in itself is depressing in this vain one of the principals' emphasized:

> In my TTI laboratory and workshop facilities and equipment are the lifeblood of the institution. No tutor nor student can achieve his or her mission without these facilities. This means that since most TTIs including mine are poorly equipped principals and highly challenged by these factors. Any mention of TTI by anybody, be it a government official, a tutor, a student, the next thing is are their laboratories and workshops; and are they equipped for effective training of trainees? (Principal/ 3).

In a nutshell TTIs challenges are that, they are not able to attract many students. This is because many parents and guardians believe that only a university education offers their children the opportunity to acquire good jobs. Another factor that makes TTIs not to attract enough students to train is that TTIS programmes are perceived to involve manual labour, are dangerous, dirty and difficult. This view is supported by Atchioarena and Esquien (2002) who found TTIs continue to attract a great deal of criticisms for being unable to train skilled workers to meet the requirements of enterprises and being extremely costly. Often the

graduate of these institutions join the ranks of the unemployment, an indication that the training provided did not match the jobs available.

Although there are many TTIs spread across the country, the institutions are yet to operate as centres of excellence and of choice rather than as centres of last resort (Ministry of Education, 2009). Students entry grades in TTIS is considered as second choice and often attributed to those who do not make it for university admission. TTIS education has experiences and continues to experience injustices with far reaching consequences of shortage of middle level human resources; for instance plumbers, masons, tailors, electricians and so on. TTIs are in fact associated with those who have failed in academics. At secondary school level there is no restoration of technical subjects that in 1980s characterized 8-4-4 system of education.

The other challenges including planning for implementation of technical programmes, with regard to the maintenance and improvement of specialized equipment that is needed for instruction. Spaces for TTI have distinct requirements for constructing the infrastructure that include; equipment apparatus, room size, room design and providing resources for a range of learning activities in addition to correctional classrooms to academic instruction (JICA, 2006). In TTIs rooms and space design are driven by highly specialized equipment, furnishings, machinery and tools need for proper instruction of students. TTI facility planning therefore necessitates flexible design with considerations for the future and accompanying changes to pedagogical approaches and changes in labour market demands (Wolf, 2002; JICA, 2006). Isler and Doerig (2008) argued that architects should design spaces with little definition of function so that spatial elements can evolve.

Instructional spaces need to simulate the eventual work environment that graduates are likely to enter upon completion of training. Laboratories and workshops should be such that they simulate actual work settings for enfacement of skill and knowledge acquisition.

In the present time inadequate physical /material resources are acknowledged as the major challenges facing technical education in teachers in Kenya. This finding is supported by Oroni (2012) who established this in his study on technical teacher competencies. Lack of sponsorship and negative attitude are other challenges. Observation reveals that indeed the following challenges really exist. Lack of adequate workshops, lack of relevant tools, outdated machines, lack of relevant textbooks, lack of sufficient practical lessons for trainees, inaccessibility to internet information and low entry marks of trainees.

It is important to note further that from interview findings, it was established that timely communication for admission on students, timely orientation upon admission for students, lack of placement services, lack of affordable and adequate accommodation for students and inadequate facilities for co-curricular activities were among the major challenges that principals faced in TTIs.

Most of the staff member respondents and most SCM respondents confirmed that new students who had been admitted were not communicated to on time hence most failed to report on time. Upon admission, orientation for the new students was not done on time as this was attested to by most of the staff respondents and the SCM respondents. Most of the staff respondents and most of the SCM respondents also confirmed that the institutes had no placement services for the students while most of the staff and SCM respondents respectively

confirmed that the institutes lacked adequate and affordable accommodation for enrolled students. Most of the respondents attested to the fact that the institutes lacked adequate resources for co-curricular activities.

From the interview sessions, the researcher established that the principals in TTIs encountered challenges. However, key among the challenges was lack of placement services which even the principals confirmed was a setback due to lack of the industry and institutes liaison. The following is a transcript from one of the principals who participated in the study.

> "...all institutes in Kenya lack a working relationship with the potential employers. At the end, our students are forced to knock on the doors of these industries looking for places to practice what they have learnt in school… …and again what they have learnt may not necessarily be in line with the requirements of the industry as the employer plays no role in formulating the curriculum for the students… in the long run, what these students have as skills may not be what the employer wants… …for example compare institutions such as Nairobi University and Kenyatta University which have signed agreements with potential industry players such Safaricom Ltd and Chandaria Industries… their students will definitely have a better chance in as far as industrial placement is concerned over the rest… …this is what TTIs should be doing with stakeholders…". (Principal /1)

It is clear that the principals in TTIs have challenges in enhancing enrolment and access to TTIs. This concurs with reviewed literature (Ngome, 2003; Nyerere, 2009 and ICEF Monitor, 2015). Ngome (2003) argues that the provision in the public budget for TVET institutions is a great challenge since the government is cutting funding of higher education sector in favor of other sectors, an observation that the ICEF Monitor Report of 2015 concurs with. ICEF Monitor further highlights the challenges facing higher education in Kenya as insufficient/declining public funding; curricula that are not responsive to modern-day needs of the labour market; poorly equipped/stocked libraries; poor governance and declining quality (also cited by Nyerere, 2009). Nyerere (2009) also observes that under-investment in

skill training for TTIs has resulted in understaffing, lack of physical infrastructure (workshops) and tools leading to low quality of education which is not synchronized with what the labour market or local livelihoods require. The challenge of declining quality of staff has led to the lack of provision of certain technical skills in the training programmes by TTIs. These technical skills are those that are much needed in the domestic market (Ngome, 2003).

Overally, the challenges faced by principals in enhancing quality of education in TTIs were of high magnitude with a mean rating of 4.29. This means that they greatly affected the quality of education in TTIs.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

This chapter presents the summary, conclusions and recommendations of the study based on the objectives of the study.

5.2 Summary of the Findings of the Study

The study established that there were many strategies that were used by principals in enhancing access, retention and quality of education in TTIs. It also established the challenges faced by principals in the use of these strategies.

5.2.1 Strategies used and challenges faced in Enhancing Access in Technical Training Institutes

The study established that the following strategies used by principals had high practical strength: use of former students had a mean rating of 4.2, use of continuing students 3.5, advertisement at secondary schools 4.0, advertisement on the institute notice board 4.9, admission of students termly 3.9, use of modular system 3.8, physical facilities 4.8, parental level of income 4.8 and career opportunities 3.8. Overally, these strategies were highly used.

The study established that the major challenges that were faced by principals in the process of enhancing access were; communication prior to admission 4.3, orientation of new students 3.5, placement services for previous students 4.0, pass rate 4.6 and boarding facilities 4.7. Facilities for co-curricular activities were a minor challenge.

5.2.2 Strategies used and challenges faced by principals in Enhancing Retention of Students in TTIs

The study established that the following strategies were highly used in enhancing retention of students in TTIs as signified by the overall mean ratings. Thus, financial assistance 4.7, teaching /learning resources /execution 4.6, boarding facilities 4.1, fees charged 4.8, quality of teaching 4.6, quality of service delivery /co-curricular activities 4.0 and tuition facilities 4.3. Arrangement of accommodation by TTIs, CDF sponsorship and orientation during enrolment were moderately used as signified by numeric strength of between 2.8 and 3.2.

With regard to retention of students the major challenges faced were; accommodation 4.5, boarding facilities 4.6, tuition facilities 4.4, teaching /learning resources 4.6, teaching staff 3.7 and pass rate 3.5.

5.2.3 Strategies used and challenges faced by principals in Enhancing Quality of Education in TTIs

The study established that principals were committed to enhancing quality of education in TTIs and the strategies that were highly used included; ensuring acquisition of skills to secure jobs in the market with a mean rating of 4.5, bench marking with other institutions 4.0, teachers' concern for students pass rate 4.5, , management endeavours to improve quality of education 4.2, regular class attendance by teachers 4.8, provision of laboratories and workshops 4.1, equipment and materials 4.1, textbooks 4.5 and ensuring optimal use of facilities 3.9.

In terms of quality education principals face the following challenges; teaching staff 4.4, entry behaviour of students 4.4, textbooks 4.4, laboratory and workshop facilities and

equipment 4.5, students' discipline 3.9, formative evaluation 4.4 and summative evaluation 4.2.

5.3 Conclusions

The study concluded that use of former students and continuing students, advertisement at secondary schools, advertisement on the institute notice board, admission of students termly, physical facilities, awareness of parental level of income and career opportunities; and use of modular system were effective strategies used by principals in enhancing access in TTIs.

As regard enhancement of retention of students in TTIs, the following strategies used by principals were found to be effective; financial assistance, teaching learning resources, boarding facilities, fees charged, quality of teaching, quality of service delivery and tuition facilities.

Acquisition of skills to secure job in market, Benchmarking against other institutions, teachers concern for student pass rate, management endeavours to improve quality of education, class attendance by teachers, optimal use of facilities, equipment and materials, textbooks and laboratory and workshops were established as strategies used by principals that were effective in enhancing quality of education in TTIs.

The challenges that principals faced in enhancing access, retention and quality of education in TTIs included; communication prior to admission, orientation of new students, placement services of previous students, pass rate provision for accommodation, inadequacy of tuition facilities, inadequacy of teaching /learning resources, low pass rate, low entry behavior of students, inadequate textbooks, inadequate laboratory and workshop facilities, formative and summative evaluation and student discipline.

5.4 Recommendations of the Study

The study made the following recommendations based on the findings herein

i. That the principals in TTIs should continue to involve students through the student council members in marketing the institutes and should reward students who participate in marketing the institute

ii. That TTIs should continue admitting students on a termly basis so as to enhance access and improve on their student population

iii. That TTIs should collect data from students concerning how they learnt of the TTIs and their experience during the application and admission process so as to ascertain the effectiveness of their marketing activities as well as their admission services.

iv. That TTIs should ensure that effective orientation for new students is done so as to ensure their persistence in academic pursuits.

v. That TTIs should make arrangements for accommodating enrolled students, create opportunities for participating in exhibitions and other co-curricular activities, come up with schemes for financial aid and charge affordable fees to enhance retention.

vi. That TTI teachers should emphasize on high pass rates as this was likely to have a positive opinion on students and that TTIs should provide adequate teaching resources to enhance quality training.

vii. That TTIs should avail adequate resources such as books in the library, ensure optimal use and benefit from the facilities in the institution as well as ensure that the staff was committed to their work so that students would benefit maximally so as to enhance retention and quality of training.

5.5 Suggestions for Further Research

The study exposed the following areas that require further research

i. An empirical study on the impact of student's entry behaviour on students' performance in engineering courses in Technical Training Institutes in Kenya.

ii. Lecturer variables as predictors of students' performance in technical training institutes in Kenya.

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APPENDICES

Appendix 1: Letter of Transmittal

Kimwomi Charles,
Maseno University
P.O. Box , Maseno
Email: ckimwomi@gmail.com
Cell phone #: +254727689499
January 7, 2015

Dear Sir/Madam,

RE: Strategies and Challenges for Principals in Enhancing Access, Retention and Promotion of Quality Education in Technical Training Institutes in Nairobi County

I am a student at Maseno University pursuing a degree of Masters of Education in Educational Administration. As part of the requirements of this degree, I am conducting a research on the subject stated above. This is expected to identify the strategies used by TTI principals in enhancing access and promoting quality education and the challenges they encounter while doing this.

To enable me collect data for the research, you have been selected as one of the participants of the study. Kindly complete the questionnaire attached or arrange for a date of appointment for the interview as per the schedule attached.

The research is for academic purposes only and thus your responses will be treated with utmost confidentiality and privacy. You are requested to give your responses with as much honesty as possible.

Thank you in advance for the anticipated assistance.
Yours sincerely,

Kimwomi Charles,
Student in Faculty of Education
Maseno University

Appendix 2: Questionnaire Guide for Student Council Members

Dear Student,

My name is Kimwomi Charles., a Masters student at Maseno University. I am doing a study on the Strategies and Challenges for Principals in Enhancing Access, Retention and Promotion of Quality Education in Technical Training Institutes in Nairobi County in Kenya. I request for your assistance by filling in the questionnaire below. This questionnaire seeks your position on the strategies and challenges that principals face whilst trying to enhance access and retention and promote quality education in Technical Training Institutes. The information you give will be treated with utmost confidence. You are requested to respond to the following questions by ticking [√] the most appropriate response or filling in the most relevant answer in the spaces provided.

Thank you very much.

QUESTIONNAIRE

BACKGROUND INFORMATION			
A1.	Gender		
	a. Male	[ ]	
	b. Female	[ ]	
A2.	Age group		
	a. 18-25 years	[ ]	
	b. 26-35 years	[ ]	
	c. 36-45 years	[ ]	
	d. > 45 years	[ ]	
A3.	Course of Study		
	a. Automotive	[ ]	
	b. Electrical/Electronics	[ ]	
	c. Mechanical	[ ]	
	d. ICT	[ ]	
	e. Building & Civil Engineering	[ ]	
	f. Business	[ ]	
	g. Agriculture	[ ]	
	h. Health Sciences	[ ]	
	i. Others	[ ]	
A4.	Year of Study		
	a. Year One	[ ]	
	b. Year Two	[ ]	
	c. Year Three	[ ]	
A5.	Other TTI Attended		
	_____		State

	_____	all

a) Student Access to Technical Training Institutes

Principal use different strategies in enhancing students access to TTIs. Based on your experience and knowledge on a five point rating scale, rate the strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Very Highly Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Use of former students					
Use of continuing students					
Use of local media (Citizen TV, Newspapers Radio)					
Advertisements at SC DEOs Offices					
Advertisement at Chief's Offices					
Advertisement at secondary schools					
Announcement in churches					
Announcement at funeral ceremonies					
Advertisement on the institutes notice boards					
Use of brochures /Fliers					
Admission of students twice a year					
Admission of students termly					
Use of modular system					
Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

---

b) Student Retention in Technical Training Institutes

Principal use different strategies in enhancing students retention to TTIs. Based on your experience and knowledge on a five point rating scale, rate the strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Always Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Orientation during enrolment					
Financial assistance					
CDF sponsorship					
Teaching Learning Resources/Exhibition					
Boarding Facilities					
Fees charged					

Arrangements for accommodation by TTIs					
Quality of teaching					
Quality of service delivery /Co-curricular activities					
Tuition facilities					

Any other important information (specify) ----------

---

c) Quality of Education in TTIs

Principal use different strategies in enhancing quality of education inTTIs. Based on your experience and knowledge on a five point rating scale, rate strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Always Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Acquisition of skills to secure job in market					
Benchmarking against other institutions					
Teachers' concern for student pass rate					
Management endeavours to improve quality of education					
Class attendance by teachers					
Laboratory and workshops					
Equipment and materials					
Textbooks					
Optimal use of facilities					
Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

---

d) Challenges Facing Principals

Principal face challenges in the process of enhancing access, retention and quality of education in TTIs. Based on your experience and knowledge on five point rating scale, rate the challenges as follows where; 1= Least challenge, 2 =Small challenge, 3 = Challenge , 4 = A bigger challenge and 5= Biggest challenge.

Challenge	**1**	**2**	**3**	**4**	**5**
Access					
Communication prior to admission					
Orientation of new students					

Placement services for previous students					
Pass rate					
Boarding facilities					
Facilities for co-curricular activities					
Any other (s) specify and rate in the space provided					
Retention					
Accommodation					
Boarding facilities					
Tuition facilities					
Teaching /learning resources					
Teaching staff					
Pass rate					
Any other (s) specify and rate in the space provided					
Textbooks					
Laboratory & workshop facilities and equipment					
Students' discipline					
Teaching methods					
Formative evaluation					
Summative evaluation					
Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

The End

Thank you for participating in this study

Appendix 3: Questionnaire Guide for HoDs and Lecturers

Dear Sir/Madam,

My name is Kimwomi Charles., a Masters student at Maseno University. I am doing a study on the Strategies and Challenges for Principals in Enhancing Access, Retention and Promotion of Quality Education in Technical Training Institutes in Nairobi County in Kenya. I request for your assistance by filling in the questionnaire below. This questionnaire seeks your opinion on the strategies and challenges that principals face whilst trying to enhance access and retention and promote quality education in Technical Training Institutes. The information you give will be treated with utmost confidence. You are requested to respond to the following questions by ticking [√] the most appropriate response or filling in the most relevant answer in the spaces provided.

Thank you very much

BACKGROUND INFORMATION			
A1.	Gender a. Male b. Female	 [ ] [ ]	
A2.	Age group a. 18-25 years b. 26-35 years c. 36-45 years d. > 45 years	 [ ] [ ] [ ] [ ]	
A3.	Area of profession a. Automotive b. Electrical/Electronics c. Mechanical d. ICT e. Building & Civil Engineering f. Business g. Agriculture h. Health Sciences i. Others	 [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]	
A4	Level of Education a. Diploma b. Higher National Diploma c. Degree d. Masters e. PhD	 [ ] [ ] [ ] [ ] [ ]	Select One

A5	Current Designation a. HoD b. Technical Teacher	 [ ] [ ]	 Select One
A6	Length of time working as a technical teacher/HoD a. Less than 1year b. 1-3years c. 4-5years d. 6-10years e. More than 10years	 [ ] [ ] [ ] [ ] [ ]	 Select One
A7.	Other TTI worked in _____ _____		State all

a) Student Access to Technical Training Institutes

Principal use different strategies in enhancing students access to TTIs. Based on your experience and knowledge on a five point rating scale, rate the strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Very Highly Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Use of former students					
Use of continuing students					
Use of local media (Citizen TV, Newspapers Radio)					
Advertisements at SC DEOs Offices					
Advertisement at Chief's Offices					
Advertisement at secondary schools					
Announcement in churches					
Announcement at funeral ceremonies					
Advertisement on the institutes notice boards					
Use of brochures /Fliers					
Admission of students twice a year					
Admission of students termly					
Use of modular system					
Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

---

b) Student Retention in Technical Training Institutes

Principal use different strategies in enhancing students retention to TTIs. Based on your experience and knowledge on a five point rating scale, rate the strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Always Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Orientation during enrolment					
Financial assistance					
CDF sponsorship					
Teaching Learning Resources/Exhibition					
Boarding Facilities					
Fees charged					
Arrangements for accommodation by TTIs					
Quality of teaching					
Quality of service delivery /Co-curricular activities					
Tuition facilities					
Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------
---

c) Quality of Education in TTIs

Principal use different strategies in enhancing quality of education in TTIs. Based on your experience and knowledge on a five point rating scale, rate strategies as follows where 1= Least Used, 2 =Less Used, 3 = Moderately Used, 4 = Highly Used and 5= Always Used.

Strategy	**1**	**2**	**3**	**4**	**5**
Acquisition of skills to secure job in market					
Benchmarking against other institutions					
Teachers' concern for student pass rate					
Management endeavours to improve quality of education					
Class attendance by teachers					
Laboratory and workshops					
Equipment and materials					
Textbooks					
Optimal use of facilities					

Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

---

d) Challenges Facing Principals

Principal face challenges in the process of enhancing access, retention and quality of education in TTIs. Based on your experience and knowledge on five point rating scale, rate the challenges as follows where; 1= Least challenge, 2 =Small challenge, 3 = Challenge , 4 = A bigger challenge and 5= Biggest challenge.

Challenge	**1**	**2**	**3**	**4**	**5**
Access					
Communication prior to admission					
Orientation of new students					
Placement services for previous students					
Pass rate					
Boarding facilities					
Facilities for co-curricular activities					
Any other (s) specify and rate in the space provided					
Tuition facilities					
Teaching /learning resources					
Teaching staff					
Pass rate					
Quality of Education					
Teaching staff					
Entry behaviour of students					
Textbooks					
Laboratory & workshop facilities and equipment					
Students' discipline					
Teaching methods					
Formative evaluation					
Summative evaluation					

Any other (s) specify and rate in the space provided					

Any other important information (specify) ----------

The End

Thank you for participating in this study

Appendix 4: Key Informant Interview Schedule for TTI Principals

Dear Sir/Madam,

My name is Kimwomi Charles., a Masters student at Maseno University. I am conducting a study on the Strategies and Challenges for Principals in Enhancing Access, Retention and Promotion of Quality Education in Technical Training Institutes in Nairobi County in Kenya. I request for your assistance by preparing for the interview schedule as per the guide below. The interview will seek your opinion on the strategies and challenges that principals face whilst trying to enhance access and retention and promote quality education in Technical Training Institutes. The information you give will be treated with utmost confidence.

Thank you very much

Interview Guide

1. Briefly give a historical overview of the school since its inception
2. Kindly provide details relating to student enrolment in the past five years
3. What would say as having influenced the enrolment patterns over these years?
4. Among the students who enrolled in these years, approximately what proportion managed to successfully complete their studies while in your institution?
5. In your opinion, why do you think these students remained in the institution to the end?
6. What enrolment strategies are being put in place to ensure an increase in student enrolment?
7. What strategies have been put in place to retain students who are already enrolled?
8. What strategies do you use to improve quality of education in your institute?
9. How do you promote quality of education in your institution?
10. What challenges do you face as far as enrolment is concerned?
11. What challenges do you face with relation to student retention?
12. What challenges do you face while promoting quality education?
13. Kindly share any other information you think may be relevant to this study.

Appendix 5:

Appendix 6: Morgan and Krejcie (1970) Table for Sample Size Determination

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

Appendix 6: Research Authorization Letter

MASENO UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Office of the Dean

Our Ref: PG/MED/00006/2002

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 09th May, 2016

TO WHOM IT MAY CONCERN

RE: PROPOSAL APPROVAL FOR CHARLES A. KIMWOMI— PG/MED/00006/2002

The above named is registered in the Master of Education Programme of the School of Education, Maseno University. This is to confirm that his research proposal titled *"Strategies and Challenges for Principals in Enhancing Access, Retention and Promotion of Quality of Education in Technical Training Institutes in Nairobi County, Kenya"* has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.

11 MAY 2016

Prof. P.O. Owuor
DEAN, SCHOOL OF GRADUATE STUDIES

Appendix 7: Research Permit

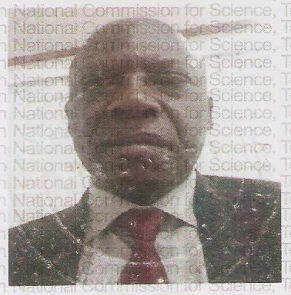
THIS IS TO CERTIFY THAT:
MR. CHARLES AONDO KIMWOMI
of MASENO UNIVERSITY, 0-100
Nairobi,has been permitted to conduct
research in *Nairobi County*

on the topic: *STRATEGIES AND CHALLENGES FOR PRINCIPALS IN ENHANCING ACCESS, RETENTION AND PROMOTION OF QUALITY EDUCATION IN TECHNICAL TRAINING INSTITUTES IN NAIROBI COUNTY, KENYA*

for the period ending:
16th June,2018

.....
Applicant's Signature

Permit No : NACOSTI/P/17/13124/17794
Date Of Issue : 16th June,2017
Fee Recieved :Ksh 500



.....
Director General
National Commission for Science, Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officer will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one (1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

HARAMBEE

REPUBLIC OF KENYA

NACOSTI

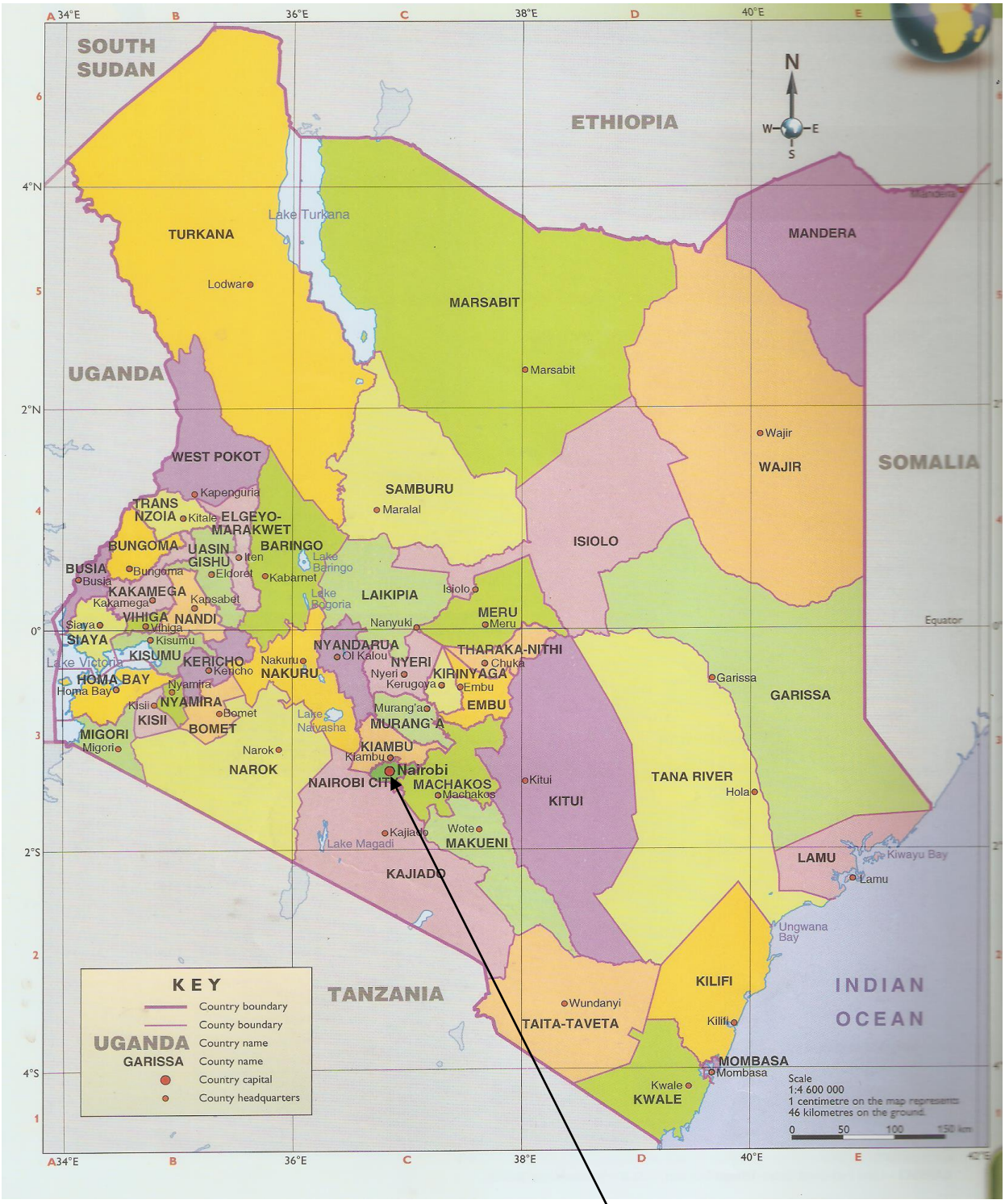
National Commission for Science, Technology and Innovation

RESEACH CLEARANCE PERMIT

Serial No.A 14410

CONDITIONS: see back page

Appendix 8: Map of Kenya showing Nairobi County



Nairobi County