STRATEGIES INFLUENCING PRODUCTION OF MIDDLE LEVEL WORKFORCE IN PUBLIC TECHNICAL, VOCATIONAL EDUCATION AND TRAINING INSTITUTIONS IN NAIROBI REGION, KENYA

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Declaration

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

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Dedication

This Research Project is dedicated to my father and mother Stephen and Priscilla Karogo, my husband Stephen Nduhiu, and my children: Phyllis, Simon and Andrew Nduhiu.

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Abbreviations and acronyms

AU:	African Union
ADB:	Asian Development Bank
AfDB:	African Development Bank
CDF:	Constituency Development Fund
COE:	Centre of Excellence
ERB:	Engineers Registration Board (Kenya)
ERS:	Economic Recovery Strategy
GoK:	Government of Kenya
HELB:	Higher Education Loans Board
KESSP:	Kenya Education Sector Support Programme
MOHEST:	Ministry of Higher Education, Science and Technology
NICHE:	Netherlands Initiative for Capacity Development in Higher Education
OECD:	Organization for Economic Co-Operation and Development
PRSP:	Poverty Reduction Strategy Plan
SWAP:	Sector Wide Approach to Planning
TVET:	Technical, Vocational and Entrepreneurship Training
UNESCO:	United Nations Educational, Scientific and Cultural Organization
VET:	Vocational Education and Training

Abstract

This study was conducted to determine the strategies influencing production of middle level workforce in Technical, Vocational Education and Training (TVET) institutions in Nairobi region, Kenya. The study sought to determine the extent to which financial strategies, leadership strategies, adequacy of teaching learning resources and the number of courses offered influence production of middle level workforce in TVET institutions. The study adopted descriptive survey research design to gather information from the respondents. Data collection was done by use of questionnaires and presentation was made in form of charts, tables and graphs. The study was based on the human capital theory.

The key study findings include: TVET institutions receive limited funding from the industry and donors; Institutions have inadequate funds to support scholarships, work study programmes for students and lecturersô career advancement and; students are not adequately involved in leadership, planning and decision making. Although the lecturers had adequate teaching learning resources, teaching laboratories classrooms and workshops were not well equipped. Shortage of staff especially in the technical disciplines and inadequate career guidance and counseling services led to reduced enrolments. Creation of awareness in secondary schools, defined career mobility, and number of courses offered to TVET trainees could increase enrolments. The study recommends development of strategies for increasing access to TVET funding, develop partnerships with industry and establish work study and scholarship programmes; develop strategies for prudent utilization of funds. Finally, the study recommends development of career guidance and counseling strategies and adoption of proper orientation at TVET level for career information and development.

Chapter one

Introduction

1.1Background of the study

Education, the world over, is the primary means of social mobility, cohesion and is important for social economic development. According UNESCO, (2011) Education basic units of classification can encompass academic knowledge or skills training. The Technical, Vocational Education and Training (TVET) plays an important role in skills training by developing qualified and competent workforce for any country. Due to its close link with the world of work, TVET contributes in training skilled labour and by giving young people and adultsô knowledge for employment and social advancement. According to UNESCO, (2009) TVET is a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. The challenge today is not so much about the value and importance of TVET but how to ensure its relevance, responsiveness and value in an increasingly global economy. Min, (1995) perceives Vocational education as a crucial element in enhancing economic productivity. Based on social efficiency theory, schools should prepare and supply future workers with appropriate

knowledge and skills to enhance their productivity and, therefore, promote economic growth (Finch, 1993; Labaree, 1997).

Globally, TVET is increasingly becoming important in times of rapid economic, social and technological change. Workers need more updated skills to participate in the knowledge economy as the competencies they acquire increasingly become quickly outdated (Neal, 2011). Both developed and rapidly developing countries such as Hong Kong, Singapore and South Korea ensure that their education and growth are inclusive. Their rapid rise in labour-intensive, export oriented industries led to a growing demand for TVET which is key in skills development. In the same breath, Cantor (1989) observes that their respective governments provide incentives for enterprises to upgrade skills and competencies of their workforce. Consequently, students are exposed to a culture of scientific investigation and application at an early age. In Europe at least 50 percent of the students in upper secondary education pursue some form of TVET. In China, India and South East Asia the figure is 35-40 percent, whereas in Africa it is less than 20 percent (Nyerere, 2009).

African governments recognize the role and importance of TVET in social and economic development. African Union (2007) observes that TVET is undertaken as part of tertiary level of education and focuses on skills preparation for the labour market. It provides a means for a complementary system of education, with

possibilities of credit transfer to higher education. Thus, TVET needs to be designed and delivered in close partnership with prospective employers with a view of providing vital skills to the increased numbers of young people completing basic education programmes. The increased numbers is a result of governmentsô effort to achieve the Education for All (EFA) goals and millennium development goals (MDGs). This is evidenced in all African countriesô development goals including Kenya (Steiner, 2006; Yamada, 2007).

Kenyaôs development agenda aims at attaining a newly industrialized, middle-income status by providing a high quality life to all its citizens by the year 2030. According to GoK, (2007), TVET plays a major role in provision of requisite human resources in science, technology and innovation. However, GOK, (2011) recognizes that for industrial and technological take off the country must ensure it has a well-qualified critical mass of human capital. The challenge now is to offer relevant TVET programmes for new occupations. According to Yamada (2007) TVET is important for economic growth, poverty alleviation, youth and womenôs empowerment and social inclusion. Further the Gok, (2007) notes that pursuance of the development of technical capabilities of the workforce and raising the quality of teaching and learning to quickly responds to emerging needs, concerns, and issues pertaining to employment. Despite formulating various policies on TVET, Nyerere, (2009) observes the need for institutions to develop and adopt

their own strategies for effective production of relevant and qualified workforce. King and Palmer (2010) notes that for TVET to offer relevant skills it needs to undergo several reforms that concern its governance, organization, delivery and financing.

According to King and Palmer, (2010) implementation strategies by both the administrators and education planners enables them to have regulatory mechanisms in financing as well as in defining appropriate strategies for change. TVET is very expensive, UNESCO (2010) notes that institutions need to explore different sources of funding and further observes that quality TVET requires a relatively low trainee/trainer ratio, workshops of reputable standards, regular investment in new equipment, and the maintenance and repair of existing equipment. Greater accountability for results should accompany greater freedom to act which may require improved systems for audit and control ADB, (2009). Therefore, institutions can adopt cost-sharing of training with employers and trainees thus sustaining an effective financing system.

Leadership and governance in TVET institutions should be handled by stakeholder boards with industry participation. According to David, (1989) Principals have increased accountability for programmes and students success. They not only have increased responsibility and authority in schools but also are

responsible in programmes, curriculum and personal decisions. Therefore the principals must be excellent team leaders and delegators.

Teaching learning resources that are adequate and current contribute to production of middle level workforce. The quality of TVET graduates as indicated by GoK, (2007) decline due to poor instructional methods, outdated/inadequate training equipment. It further notes trainers lack necessary industry-based technological skills updated through industrial attachment and hence lack meaningful work experience and supervision. Nyerere (2009) observes that lack of industrial attachment, to a great extent, compromises quality of education especially when resources are lacking. He further notes that teachers in the technical institutions rarely go for refresher courses thus putting them at the mercy of their students who are more exposed.

King and palmer (2010) indicate that TVET curriculum that is weak and not flexible enough cannot meet the technological changes and diverse needs of different clients. GoK, (2012) recognizes that quality TVET programmes guarantee a strong link between skills learnt and the needs of the labour market. Strategies of TVET institutions should aim at production of adequate graduates for technological take-off. According to Kyungu, (1997) there are excessive levels of population growth in the country and institutions need strategies devised, developed, implemented, and evaluated to meet human needs in a far more

effective way. Subsequently, Nyerere, (2009) observes that whereas the government has made many recommendations in policy documents, they have not been implemented or there is no documented evidence to show progress. TVET institutions have no tangible outcomes showing adaptability by targeted labour market. Though institutions develop strategies based on the policies provided by the central government, there is significant difference in production of graduates and hence the need to establish strategies influencing production of middle level workforce in TVET institutions in Kenya.

1.2 Statement of the problem

For Kenya to achieve industrialization and technological development, GoK (2011) stressed the need to ensure availability of a critical mass of human capital. The mass includes engineers, technologists, technicians, craftsmen and artisan among other personnel. According to Engineers Registration Board (2012) most developed countries have the ideal ratio for the four categories of professionals as 1:2:4:16. For a developing country it is considered to be 1:3:12:60. On this assumption then, by the year 2030, for industrial takeoff, the board notes that the country will require at least 7,500 engineers, 22,500 engineering technologists, 90,000 engineering technicians, and 450,000 artisans (craft persons).

According to GOK (2012) the enrolments in TVET institutions is a total of 75,547 (38,160 male and 37,386 female). This gives the indication that the

country will not achieve the ERB projection. Further, African Development Bank, (2012) concurs, that there is an existing gap of 30,000 engineers, 90,000 electricians and 400,000 artisans as at October 2012. Though TVET institutions have strategies, there is no documented evidence that these strategies influence production of middle level workforce.

1.3 Purpose of the study

The purpose of this study was to determine the strategies influencing production of middle level workforce in TVET institutions in Nairobi region, Kenya.

1.4 Objectives of the study

The objectives of the study were:

i) To determine the extent to which financial strategies influence production of middle level workforce in TVET institutions.

ii) To determine the extent to which leadership strategies influence production of middle level workforce in TVET institutions.

iii) To assess the extent to which adequacy of teaching learning resources affect production of middle level workforce in TVET institutions.

iv) To determine the extent to which number of courses offered influence production of middle level workforce in TVET institutions.

1.5 Research questions

The study was guided by the following research questions:

i) To what extent do financial strategies influence production of middle level workforce in TVET institutions?

ii) To what extent do leadership strategies influence production of middle level workforce in TVET institutions?

iii) How does adequacy of teaching learning resources influence production of middle level workforce in TVET institutions?

iv) To what extent does the number of courses offered influence production of middle level workforce in TVET institutions?

1.6 Significance of the study

The findings of the study may be used by Principals to formulate strategies for production of middle level workforce in TVET institutions. The study findings may be helpful to educational planners in the Ministry responsible for TVET as well as County Education Boards in developing policies geared towards provision of quality TVET and hence enhance skills training. The findings therefore, may be used by employment providers since graduates will be qualified and well trained workers. The findings of this study may also contribute to add knowledge and can be useful to academicians as a source for further studies.

1.7 Limitations of the study

Best and Kahn (2004) defines limitations as those conditions beyond the control of the researcher that may place restrictions on the conclusions of the study. The study had the limitation of respondents being very busy and not able to give out the required information during class hours. The researcher had to seek audience with the respondents after class hours in order to get the information. The respondentôs fear of giving accurate information, the researcher assured them that their responses were confidential and was to be used for academic purposes only.

1.8 Delimitations of the study

The study was conducted in Public TVET Institutions in Nairobi Region. It focused only on the principals, lecturers and students. The limitation of the study was lack of adequate time on the part of the respondents. They were very busy people and this led to the questionnaires being returned late and less than a hundred percent.

1.9 Basic assumptions of the study

The study was based on the assumptions that;

(i) TVET institutions in Nairobi region have strategies that influence production of middle level workforce.

(ii) The strategies are shared and are understood by all the relevant stakeholders.

1.10 Definitions of significant terms

Center of excellence- refers to a premier organization or a department providing an exceptional product or service in an assigned sphere of expertise and within a specific field of technology, business, or government, consistent with the unique requirements and capabilities of the institution.

Middle level workforce ï refers to employees or self-employed personnel who do jobs that require certificates less than a college degree and have a level of education and training required for a particular job. These cadres of workers are highly skilled trade and technical workers and include engineers, technologists, technicians, crafts men and artisans and have requisite skills, knowledge, attitude, and values needed for the place of work place.

Nairobi region - refers to the MoHESTôs educational geographical zone that comprises of Seven (7) Technical Training Institutes (TTIs) namely: Kiambu Institute of Science and Technology; Nairobi; Kabete; Thika; Wote; Masai, and Kinyanjui Technical Training Institutes.

Public TVET ï refers to Post secondary middle level technical institution developed, equipped and provided with staff from Public funds by the Government, parents and communities.

Strategies - Refer to plans that are employed by a TVET institution to function in the best way possible towards producing middle level workforce.

1.11 Organization of the study

This study report is organized into Five Chapters. Chapter one covers the introduction which consist of the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations and delimitations of the study, basic assumptions of the study, definitions of significant terms and organization of the study.

Chapter Two focuses on review of related literature. It covers literature review basing on the following strategies affecting TVET institutions in production of relevant middle level workforce: leadership strategies, financial, courses offered and teaching learning resources.

Chapter Three consists of research methodology used in the study. It details the research methodology, research design, target population, sample and sampling techniques data collection instruments and data analysis techniques.

Chapter Four consists of data analysis and interpretation of findings whereas Chapter Five consists of summary of findings, conclusion and recommendations.

Chapter two

Literature review

2.1 Introduction

This chapter reviews the nature and importance of TVET by drawing on the literature in the areas of strategies adopted by TVET institutions on production of relevant middle level workforce. The study focused on financial strategies, leadership strategies, teaching learning resources and the courses offered and their influence on production of relevant middle level workforce. The section explores strategies that have been undertaken to improve the production of middle level TVET graduates. It also has the summary of literature review, theoretical framework and conceptual framework.

2.2 Influence of financial strategies on production of middle level workforce in TVET institutions

Financing is of utmost importance in establishing a sustainable TVET system. UNESCO, (2010) identifies the participation of employers in the financing as highly important. The implementation of this financial approach avoids or reduces social problems and costs in the future.

TVET is usually more expensive than academic education, it is important to ensure that it is implemented in a cost-effective manner in line with labour market needs (UNESCO, 2012). Financing is largely determined by the rules and

regulations whereby financial resources are collected, allocated, and managed. It is important therefore to ensure that resources are equitable and efficiently allocated, (IAG-TVET, 2009).

According to UNESCO (2004), lack of financial resources is singled out as the leading factor to reduced training provided in public institutions. Denial of financial support is a hindrance to pursuing critical objectives of providing training and raising production. For instance, Bunnings (2006) asserts that scholarships for lecturers enhance quality of TVET training. Furthermore, when lecturers lack facilitation for training they lack adequate capacity to impart skills on the trainees. It is imperative that institutions have adequate strategies of an expanded financial system in order to acquire adequate facilities and equipments necessary to lead to the effectiveness of the system.

TVET institutions need to restructure their programmes to be responsive to the needs of the job market, especially the industry. Reddan and Harrison, (2010) notes that TVET curricula must focus on outcomes in terms of the skills, knowledge and attitudes required in the industry. King and McGrath (2004) argue that with TVET being more diverse because of the changes in the labour market, it should be able to integrate the youth into the world of work. According to Cantor, (1989) Japanese companies invest heavily in industrial training and retraining of the labour force. He further notes that approximately three quarters

of the total expenditure on industrial training is provided by the industry itself and one quarter by the public sector.

Lauglo and Lillis (1988) consider investment in vocational education as one dilemma which has preoccupied many countries for a long time. Many people consider general education as a suitable type of education that is capable of responding to economic and labour force changes in society. In order to attract the needed finances to revitalize the current status, Usman (2007), notes that TVET should have forward-looking strategies that reduces skills gaps established by enabling training providers to anticipate and forecast what skills are in demand currently, so as to ensure a better fit between jobs and skills. He further notes that TVET has an advantage of imparting specific job-relevant skills workers are more readily suitable for a given job. Majority of trainees enrolled in TVET institutions are self-sponsored with very few receiving any financial support from donors, government or other charitable organizations (Nyerere 2009).

The government of Kenya has a major interest in the labour market being supplied with trained personnel to match the quantitative and qualitative demands of employers. This makes the GOK obliged to finance the TVET sector from its annual budget, and regulate the supply of other sources of finance. Hitherto, TVET fees in Kenya have been heavily subsidized, making only a very small contribution to covering the costs of TVET institutions. Ramallah, (2010) argues

that the justification for cost-sharing with trainees is that TVET graduates benefit from higher incomes as a result of increased employability and better payment. Ramallah, (2010) observes that trainees can contribute to sharing the burden of TVET financing by paying higher, more realistic up-front fees, through loan schemes, or by paying and ex-post ñgraduate taxò. The risks of increasing TVET fees are that total TVET enrolment may decrease and that disadvantaged candidates may be excluded from accessing TVET.

2.3 Influence of leadership strategies on production of middle level workforce in TVET institutions

Leadership in TVET comprise of a functional or cross-functional team from within and outside the organization. It may be set up as a physical or virtual team with a permanent status rather than just a project (Kerrine & Ian, 2011). According to Sartori, (2009) for leadership to be more effective, productive, innovative, and satisfying, it is important to share visions and values among people working in organizations. There is increased sense of ownership, commitment, satisfaction, security, purpose and trust. This entails involving stakeholders in leadership and planning process.

According to Kagotho (2007), good leadership provides necessary guidance, clarity of direction and rewards for effective performance of an organization. Gachanja (2007) notes that it is important for educational managers to develop

leadership talents that will facilitate organizational effectiveness and this call for institutions to embrace strategies. Bradford (2011) emphasizes the need for lecturers to understand the strategies to enable them make better day-to-day decisions that will support the institutes vision.

Carnoy (1993) notes that, the recognition and preference for general education by the youth in the Sub-Saharan Africa is high. This could be attributed to administrative personnel and leadership roles people chose after going through general education background. Dasmani (2011) concurs that leaders from a TVET background are perceived negatively. However, quality management is an integral part of TVET which should assure the relevance of TVET outcomes to ensure the employability of TVET graduates through the effective and efficient use of the available resources. Gok, (2008) view TVET quality system as a strategic issue with emphasis on top management leadership, continuous improvement, and shared problem solving on one hand and the other hand, TVET employees being responsible for availability of quality training and education.

According to Claig, (2009) to ensure a smooth operation of the system, and to get the required feedback for the development of the leadership system, a monitoring and evaluation mechanism need to be implemented. Gok, (2008) affirms that monitoring the internal efficiency of training programs, focusing on costs, access,

and repetition and drop-out rates and quality measurers the value added and cost-benefit of TVET interventions.

2.4 Influence of adequate teaching learning resources on production of middle level workforce in TVET institutions

Effective teaching and learning process as noted by UNESCO, (2012) is a measure of quality of any TVET programme. Quality facilities and equipment is fundamental to the provision of quality and relevant TVET education. Adequate teaching learning resources contribute to self directed responsibility for learning to the trainees. Carl, (1994) further notes directed learning creates curiosity and encourages students to take responsibility for their own development and learning. This promotes personal and academic growth. UNESCO , (2012) notes that availability of a systematic approach to quality assurance to support practitioners and policy-makers is important in improving the quality of training provision, and also guide students in making choices. Charner (1996) observe that, learners in developing countries have begun to show more interest in technology. According to UNESCO, (2012) teaching and learning strategies must adapt to more flexible and generic approaches that embrace the use of digital media where TVET learners use ICT to enhance learning.

Institutions need to explore strategies towards use of open and distance learning, knowledge sharing in the area of education for the world of work. 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 word wide. A range of teaching and related equipment can be sought by institutions from industry. A study by Koech (1999) affirms that more active collaborative mechanisms between industry and training institutions should be put in place to ensure relevance of training. The collaborations will help ensure that teachers also keep abreast with the changing technology. Carrie, (1995) and Shulman (1987) assert that if teachers lack subject mastery it contributes to poor teaching which stem from lack of understanding of the topic at hand. They further note that teachers should receive regular in service training so that they keep abreast with new knowledge in the information age. In his study, Odhiambo (2005) asserts that continuous education for teachers would lead to quality of teaching and learning in the institutions.

The teacherï pupil ratio greatly influences performance. Chelimo, (2005) notes that, Schools with low teacherï pupil ratio greatly give individual attention to the pupils and there is increased interaction which enables the learners to be motivated. Therefore schools suffering constraints of facilities tend to do poorer than those with adequate facilities. Apart from teacher- pupil ratio, Nyerere,

(2009) further notes the need for an establishment well-structured and coordinated industrial exposure for trainees in TVET institutions.

2.5 Influence of courses offered on production of middle level workforce in TVET institutions

Cantor (1989) observes that in the developed and developing countries, many young people enter vocational programmes at upper secondary level where these programmes sometimes are linked to workplace training, formal apprenticeships, alternating on-the-job learning with school-based training. OECD (2008) indicate that means and mechanisms are put in place to ensure a smooth and rapid transition of TVET graduates to activity or to other forms and levels of education/training. Guidance and counseling is an important element in this respect, and public or private employment services have a crucial role.

For increased career mobility TVET is no longer merely expected to provide learning opportunities. NICHE (2010) observes that TVET should be in a position to facilitate appropriate human resource development from a one-job-for-life culture to higher career mobility through focusing on competence development as opposed to just knowledge acquisition. This means then that courses offered should not only provide for career mobility but creative skills as well.

In many African countries, public TVET institutions have not been able to attract many students. Commonwealth of Learning, (2001) notes that many parents

believe that only a university education will offer their children the opportunity to acquire a good job. These countries are unable to attract enough people to train in TVET since it is perceived to involve manual labour, is dangerous, dirty and difficult. According to Atchoarena and Esquieu (2002) public TVET institutions continue to attract a great deal of criticism for being unable to train skilled workers to meet the requirements of enterprises and being extremely costly. Often, the graduates of these institutions join the ranks of the unemployed, an indication that the training provided did not match the jobs available.

According to Sultana G. (2012), career guidance could help make TVET more attractive by improving the educational offer in TVET and increasing permeability between TVET and non-TVET tracks. He further notes that career guidance have a role to play in promoting knowledge of the training offered in TVET institutions, in marketing TVET as a desirable option ; increasing the opportunities for students to ótasteô courses and in turn encourage informed attitudes towards TVET. Majumdar S. (2011), notes that TVET for greater access of the poor and underprivileged are some of the requisites for producing a new generation of educated and skilled employees who are flexible, analytical, and can serve as driving forces for innovation and growth.

Currently, the transition rate of pupils from primary to secondary school level stands at 70%; hence, the remaining 30% of primary school graduates and drop-

outs from primary and secondary schools provide the catchment for TVET in Kenya. Although there are many TVET institutions spread across the country, the institutions are yet to operate as centres of choice rather than as centres of ólast resortô (MoE, 2009). The studentsô entry grades in TVET are usually low as compared to those joining the university education. TVET is considered as a second choice and often times attributed to those who do not make it for university admission. The TVET education sector has experienced historical injustices with far reaching consequences. According to Nyerere (2009), TVET in Kenya is associated with those who have failed in academics. The technical subjects were awarded fewer marks than the other subjects. Nyerere further notes that there is no restoration of technical subjects in the secondary school curriculum with a view to expanding their reach to cover all secondary schools.

2.7 Summary of literature review

This section has dealt with the various TVET strategies that influence production of middle level workforce not only in Kenya but also other parts of the world. Four strategies have been examined namely: financial strategies, leadership strategies, teaching learning resources and course offered and their influence production of middle level workforce. Whereas the government of Kenya has made many recommendations in policy documents, they have not been implemented and there is no documented evidence to show progress. Previous

scholars of TVET have recommended various strategies for which there is no tangible evidence of implementation. The proposed study will investigate the viable strategies to enhance productivity of middle level workforce in Kenya.

2.8 Theoretical framework

The study was based on the Human Capital Theory. The theory proposes that education and training is highly instrumental and necessary to improve the productive capacity of a nation. This theory was further developed by Becker in 1964. According to the theory, Becker,(1994) explains, education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising workersô future income by increasing their lifetime earnings. Investing in skills and education enables one to climb the career ladder and should lead to greater value in the marketplace. This suggests that as an individual progress in their education and career, they should experience greater career success as indicated by Schluz & Maaz, (2010). Human capital is comprised of an individualôs educational, personal, and professional experiences (Pachulicz, Schmitt & Kuljinan, 2008).

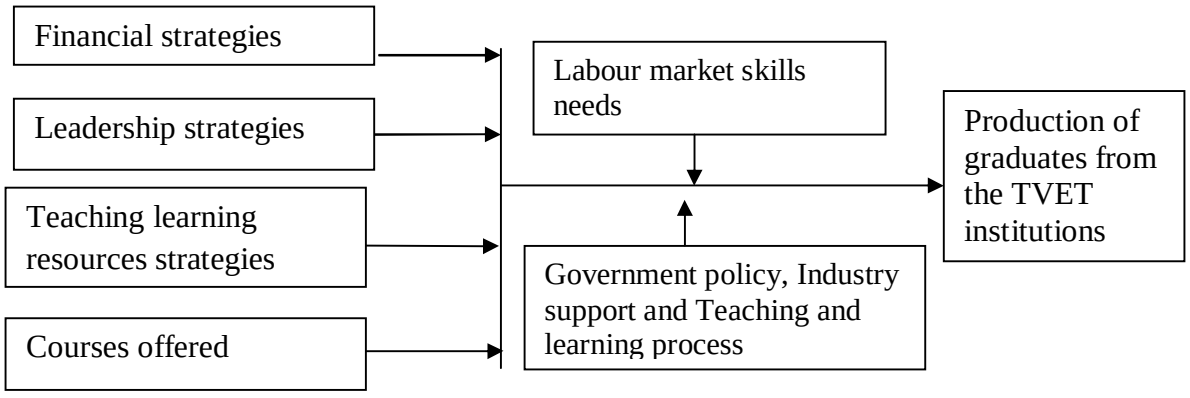
In this study, the application of TVET skills and technology offer many benefits as it provides hands on personnel who should have the requisite knowledge and skills on operating equipment and machinery in industry. This contribution addresses the youth bulge and strengthens the countryôs capacity to respond to its

growing need for diversified skilled manpower (GoK, 2007). Since skills enhance employment opportunities for poverty reduction and provide suitable interventions to support Government efforts in rapid job creation, this study seeks to identify the strategies that affect the TVET institutions towards production of middle level workforce in the country.

2.9 Conceptual Framework

The conceptual framework shows the relationships that exist between the dependent and independent variables under study. Also shown are the moderating variables and intervening variables. The conceptual framework is as shown in figure 2.9

Figure 2.9: Conceptual framework



The conceptual framework above diagrammatically shows the relationships that exist between the dependent and independent variables under study. The

dependent variable is production of TVET graduates whose main indicator is the number of graduates from the TVET institutions.

The independent variables that will be investigated to establish their level of influence on the dependent variable are: financial strategies, leadership strategies, courses offered and teaching learning resources. Also shown labour market skills needs are the moderating variables whereas the Government policy, Industry support and Teaching and learning process are the intervening variables.

Chapter three

Research methodology

3.1 Introduction

This section contains the methodology for data gathering and analysis that was used in the study. It describes the overall strategy that was be used in collection and analyzing collected data. The section is organized along the following sub sections: research design, target population, sampling design and procedure, data collection instrument, instrument reliability, data collection procedure and data analysis and presentation that will be considered in the study.

3.2 Research design

The research design used in this study was descriptive survey research design. Mugenda and Mugenda, (2008) states that the descriptive study is a method, which enables the researcher to summarize and organize data in an effective and meaningful way. According to Cooper and Schindler (2003), a descriptive survey research design is concerned with finding out the what, where and how of a phenomenon. The study adopted descriptive survey research design to obtain information by asking questions relating to individual perceptions in describing the existing strategies in the Technical Training Institutions. This enabled the researcher ascertain and be able to describe characteristics of the variables of interest in the strategies. The major purpose for adopting descriptive research design as noted by Kothari, (2004) was because it gives a description of state of

affairs as it exists at present. This design was suitable for this study since the researcher wanted to describe how TVET strategies influence the production of middle level workforce. The researcher will not be able to manipulate any variables.

3.3 Target population

Population refers to the entire group of people, events or things of interest that the researcher wishes to investigate. According to Kombo, (2006), all people under consideration in any field of inquiry constitute a universe or targeted population. The population of the study consisted of all the seven (7) TVET Centers of Excellence(COE) in Nairobi Region as shown in appendix vi. The target population of the study comprised of all the 7 principals, 210 lecturers and 760 third year students from the COE departments.

3.4 Sampling design and procedure

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals selected represent a large group from which they are drawn (Chandran, 2003). Denscombe (2008) observes that, the sample must be carefully selected to be representative of the population and the researcher needs to ensure that the subdivisions entailed in the analysis are accurately catered for. Since the population is small and accessible, the researcher took all the seven (7) TVET institutions in Nairobi region to form the studyôs sample size and the

researcher therefore conducted a census study involving all the seven institutions. However, purposive sampling was done by selecting 30% of the lecturers and 30% of the student respondents from centres of excellence departments only. This gave 63 lectures and 228 students as shown in Table 3.1.

Table 3.1 The sample size

Profession	**Number**	**Sample**	**Percentage**
Principals	7	7	100
Lecturers	210	63	30.0
Students	760	228	30.0
Total	**977**	**298**	**30.50**

Table 3.1 shows the sample size. The data indicates 30% representation. This was considered appropriate as affirmed by Mugenda and Mugenda (2008) who opined that the sample must be large enough to represent the salient characteristics of the accessible population.

3.5 Data collection instruments

Primary data was collected using self-administered questionnaires. This is because they collect information that is not directly observable. They inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals (Borg and Gall, 1996). There were 2 questionnaires one for the lecturers and the other for the students. The reason for choosing questionnaire was primarily due to their practicability, applicability to the research problem and the

size of the population. The questionnaires were open ended items and Likert scale to allow the respondents give their opinion and suggestions. An oral interview guide was used to interview the Principals who were the key informants in the study. The researcher asked questions and led the respondents towards giving data to meet the study objectives.

3.5.1 Validity of the instrument

To ensure validity of the study, the instruments were subjected to a criterion of measuring both face and content validity. In this context, face validity means looking at the operationalization of the instrument and determining whether at face value it would be a good translation of the instrument (Lacity and Jansen, 1994). According to Cronbach, (1971) content validity means checking the operationalization against the relevant content domain for the instrument. The aim of this exercise was to evaluate the validity, clarity of test items and suitability of language used in the instrument and the feasibility of the study (Mulusa 1990). The responses to the instrument were used to determine whether the items were clear, valid and whether they drew consistent responses. Gay (1992) argues that content validity is established by an expert. The researcher consulted with the supervisorsô to get expert opinion to approve the content of the instruments. Items not found suitable were either be discarded or modified so as to improve the quality of the instrument.

3.6 Instrument reliability

Reliability refers to precision, consistency and accuracy of the research instrument. It is the degree of consistency that the instrument demonstrates (Best and Khan, 1998).The questionnaire was subjected to a pilot test before the actual administration to the respondents. The questionnaires designed by the researcher based on the research questions were pre-tested to ascertain the suitability of the tool before the actual administration. Pre-testing was done by administering the questionnaire to ten respondents who were selected randomly from the sample size. A value of 0.8 Cronbachôs alpha was arrived at after computing the results. This was used to check for reliability of the instrument. The figure obtained was higher than 0.7, and the instrument was considered reliable. However, it is commonly agreed among researchers that an alpha greater or equal to 0.7 shows that an instrument is reliable in measuring what it was intended to measure. Cronbach's α is defined by the formula:

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} \sigma_{Y_i}^2}{\sigma_X^2}\right)$$

Where:

K is the number of components (*K-items*)

σ_X^2 is the variance of the observed total test scores, and

$\sigma_{Y_i}^2$ the variance of component *i* for the current sample of persons.

The pilot test aided the researcher in clearing any ambiguities and in ensuring that the questions measured what it was intended to measure. This enabled the researcher to fine tune the questionnaire for objectivity and efficiency of the process.

3.7 Data collection procedures / techniques

A research permit to conduct the study was sought from MoHEST at the National Council of Science and Technology (NCST). After booking appointments with principals of TVET institutions the researcher sought permission from the Nairobi county office to administer questionnaires. The filled questionnaires were and collected immediately after they were filled.

3.8 Data analysis and presentation

The raw data collected was sorted, coded and arranged serially according to the type of data whether quantitative or qualitative. The coded data was entered accordingly in the computer for analysis using the Statistical Package for Social Sciences (SPSS). Quantitative data was analyzed through descriptive statistics while qualitative data was analyzed by arranging them according to the research questions and objectives. The analyzed data was recorded using frequency tables and percentages. Borg and Gall (1983) argue, the most used and understood standard proportion is the percentage. The findings were then presented in tables, figures and charts.

Chapter four

Data analysis, interpretation and discussions

4.1 Introduction

This chapter presents data analysis, interpretation and discussions of the study guided by the objectives.

4.2 Instrument response rate

The target population of this study comprised of all the 7 principals, 210 lecturers and 760 third year students from the Centres of Excellence departments. Out of the target population a sample was drawn comprising of 7 principals, 63 lecturers and 228 third year students as respondents. Out of the sampled population there were 7 responses from all the principals, 53 from the lecturers and 178 from the 228 targeted students. The response rate is presented as in table 4.1

Table 4.1 Instrument response rate

Response rate	Frequency	Percent	Cumulative Percent
Responded	238	79.87	79.87
Did not respond	60	20.13	100
Total	**298**	**100.0**	

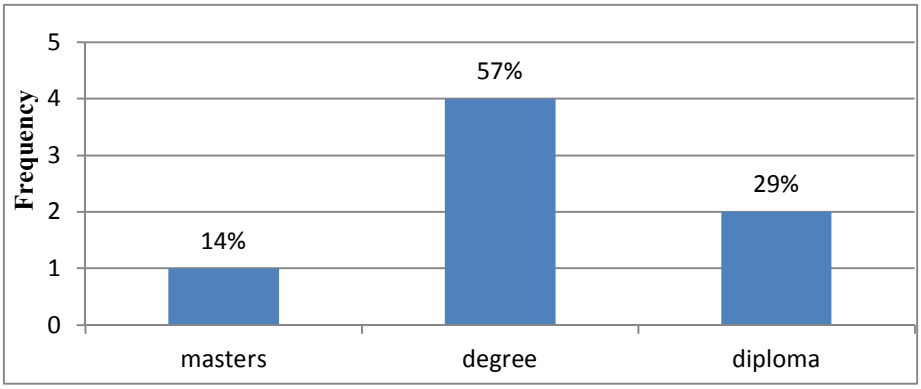
From the values in Table 4.1, it can be observed that the response rate was 79.87% and was above 50% respondent turn out. According to Mugenda (2003) a response rate above 50% can adequately be used in establishing the research objectives and answering research questions.

4.3 Principals' characteristics

A total of 6 male and 1 female principals participated in the study translating to a response rate of 85.7% male and 14.3% female participation. The majority of the Principals (62.5%) had less than 5 years of experience as principals. The principals were of varying ages with 37.5% being in the age bracket of 40 ï 50 years and 62.5% being in the age bracket of above 50 years.

The Principals had varying levels of academic qualifications including Diploma Certificate, Bachelors and Masters as indicated in Figure 4.1.

Figure 4.1 Principals academic qualification



As indicated in figure 4.1, 4 out of the 7 principals had attained first degree level of education. The data revealed that principals were at different levels in training. The study noted that some principles constituting 27% are still at diploma level heading institutions with diploma students and this could influence negatively on skills offered.

4.4 Lecturers' characteristics

A total of 53, 33 male and 20 female lecturers participated in the survey translating to 62.3% response rate with 37.7% female participation. The lecturers had spent varying number of years in the institutions as shown in Table 4.2

Table 4.2 Period the lecturers have spent in the institutions

Period	Frequency	Percentage (%)
5 Years and Below	11	21
6 - 10 years	25	47
11 - 15 years	8	15
over 15 years	9	17
Total	**53**	**100**

The values in Table 4.2 depict the period the lecturers had spent in the institutions. The data shows that among the lecturers who participated in the study, a total of 89% had spent over 6 years in the institution. This implies that they were conversant with the institutionsô operations and were able to respond to the questionnaires effectively. These lecturers were fairly balanced in their level of education as shown in the table 4.3

Table 4.3 Lecturers academic qualifications

Level of education	Frequency	Percentage (%)
Diploma Certificates	15	21
BachelorsôDegrees	26	47
Holding Masters Degrees	9	15
PhD	3	17
Total	**53**	**100**

As presented in Table 4.3, the findings show that out of the 53 lecturers who participated in the study, 38 had attained qualifications above a first degree which represents 79% of the lecturers. The data reveals that majority of the lecturers have the prerequisite qualifications to train middle level workforce.

4.5 Students characteristics

A total of 178 students, 118 male and 60 female students participated in the survey translating to 66.3% male response rate and 33.7% female participation rate. The studentôs age were recorded as in the table 4.5

Table 4.4 Students age in years

Level of education	Frequency	Percentage (%)
Below 20 years	9	5.1
21 years-25 years	156	87.6
Above 26 years	13	7.3
Total	**178**	**100.0**

The findings indicated in table 4.5 show that students in TVET institutions are of varying ages, with only a few below 20 years. The study revealed majority of trainees in TVET comprise of youthful age-group between 21 and 25 years and thus forming potential candidates for middle-level cadre in the job market.

4.6 Influence of financial strategies on production of middle level workforce

The first objective of the study sought to examine the influence of financial strategies on production of middle level workforce in TVET institutions in Nairobi region. The respondents were the lecturers and the students.

4.6.1 Lecturers' response on influence of financial strategies on production of middle level workforce

The study specifically sought to establish if institutions offer loans, scholarships or any other subsidies to lecturers to enable them access professional training programmes. The other consideration was to establish if industry support lecturers in training and whether there were mechanisms in place to ensure funds were well utilized. The responses were as indicated in the Table 4.5.

Table 4.5 The financial strategies for lecturers in TVET institutions

Lecturers rating on influence of financial strategies		Frequency	Percentage (%)
Institutions offer Loans and subsidies to lecturers	Strongly disagree	30	57
	Disagree	10	19
	Moderately agree	8	15
	Agree	3	6
	Strongly agree	2	4
	Total	53	100
Scholarships are available for lecturers	Strongly disagree	10	49
	Disagree	15	30
	Moderately agree	12	13
	Agree	8	5
	Strongly agree	7	3
	Total	53	100
Industry support in training lecturers in TVET institutions	Strongly disagree	31	58
	Disagree	10	19
	Moderately agree	8	15
	Agree	4	8
	Strongly agree	0	0
	Total	53	100
Mechanisms in place to ensure funds are well utilized	Strongly disagree	8	15
	Disagree	28	53
	Moderately agree	10	19
	Agree	7	13
	Strongly agree	0	0
	Total	53	100

Table 4.5 shows the lecturerôs response on whether institutions offer them loans or subsidies. The data reveals that they are not given any financial support as given by 76% of the respondents. This indicates that majority of the respondents do not adequately benefit from institutional loans or subsidies. This denial of the facilitation may affect the lecturersô motivation affecting concentration on their duties and hence skills development for the learners. This assertion concurs with

UNESCO (2011) who notes that motivation of trainers provides a solution to foster more talented and qualified staff in TVET.

The findings further revealed that no scholarships were available for lecturers as was depicted by a disagree rating of 79%. This implies that either funds are inadequate to support scholarship programmes or they are not prioritized hence affecting lecturerôs professional development negatively. When there are no funds set aside for them the lecturers are negatively motivated an assertion that concurs with Bunnings (2006) who noted that scholarships for lecturers affect quality of TVET training. Furthermore, when lecturers lack facilitation for training they would have inadequate capacity to impart skills on the trainees.

On the assertion that industry supports training of lecturers in TVET institutions it emerged that industryôs support is very minimal as indicated by 8% agree rate. The few respondents who seemed to agree singled out the industrial attachment period when they supervise students. The study further revealed that students cater for their own insurance during the attachment period, some industries charge attachment fee and, students are expected to meet their upkeep during the period. These negatively affect the production of middle level workforce.

In establishing whether there were mechanisms in place to ensure efficient utilization of funds to influence production of middle level workforce, the

respondents recorded 13% agreement rate whereas 53% disagreed. The respondents who affirmed were mainly heads of departments who are responsible for procurement in their respective fields. Conversely, majority opined that there were no mechanisms in place to ensure efficient utilization of funds. The study therefore notes the need for a well structured and coordinated mechanism of ensuring efficient utilization of funds towards production of middle level workforce.

4.6.2 Financial strategies for students in TVET institutions

The study sought to find out if institutions have work study programmes for the students and whether there are any scholarship programmes. It sought to establish if industry support in training students and whether there were mechanisms in place to ensure funds were well utilized. The responses were as indicated in the Table 4.6

Table 4.6 Financial strategies for students in TVET institutions

Students rating on influence of financial strategies		Frequency	Percentage (%)
Instituions have work study programmes for the students	Strongly disagree	90	51
	Disagree	55	31
	Moderately agree	15	11
	Agree	8	4
	Strongly agree	10	3
	Total	178	100
Students have scholarship programmes in TVET institutions	Strongly disagree	88	49
	Disagree	60	34
	Moderately agree	12	7
	Agree	8	4
	Strongly agree	10	6
	Total	178	100
Industry support financing students training in TVET institutions	Strongly disagree	100	56
	Disagree	50	28
	Moderately agree	20	11
	Agree	8	4
	Strongly agree	0	0
	Total	178	100
Mechanisms in place to ensure funds are well utilized	Strongly disagree	90	51
	Disagree	50	28
	Moderately agree	20	11
	Agree	10	6
	Strongly agree	8	4
	Total	178	100

Table 4.6 presents studentsô responses on financial strategies in their institutions.The study findings revealed that institutions do not have school work programmes for the students as was rated by majority of the students with 82% disagreeing. The data indicated there are no funds set aside for work study programmes for the students. Those who agreed rated at 3% indicated the few students who were in institutions with production units and students are engaged while out of class.

According to the findings of most of the respondents were not aware of scholarship programmes for students in TVET institutions. This was revealed by a disagree rating of 83% with 49% strongly disagreeing. The 6% who agreed could be few students under the ministry bursary scholarships programme and those under Constituency Development Fund (CDF) bursary programmes that cater for the orphans and extremely poor students. Although individual TVET institution had no scholarship programmes, there is need to sensitize students on availability of scholarships administered through Higher Education Loans Board (HELB).

On the assertion that Industry support training the studentôs responses indicated 6% agree rate. This represented the support students get while on industrial attachment. However majority of the students rated the support at 56% strongly disagree rate, which implies that there is no support by industry to the students in TVET institutions. This influences production of middle level workforce negatively since most industries offer inadequate support to the students, particularly, financial. However, attachesô to industries gain hands on experience from the use of state of the art equipment.

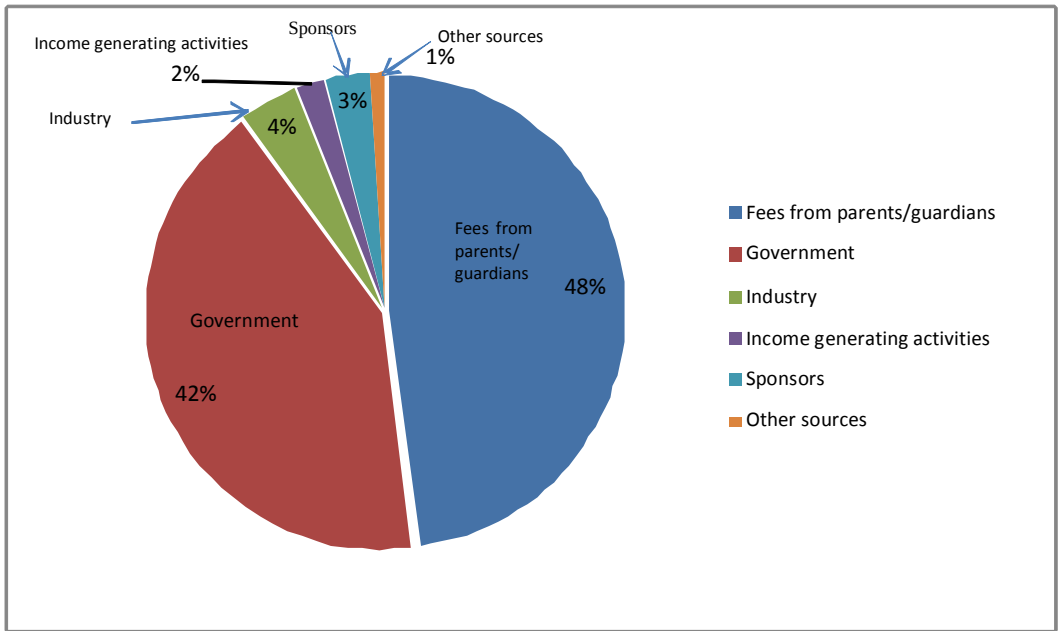
In establishing whether there were mechanisms in place to ensure funds were being well utilized, 79% of the respondents disagreed with 51% in strong disagreement. Never the less those who were of the opinion that there are mechanisms in place to ensure funds are well utilized had a 4% agree rate. This

could have been represented the students leaders. From these findings it can be concluded that there are no strategies in TVET concerning students work study programmes and studentôs scholarship programmes. This influences production of middle level workforce in that the industries do not provide necessary up-to-date equipment to support training a critical mass of students in various TVET courses.

4.6.3 Principal's response on financial strategies in TVET

The study sought to find out from the principals the major sources of funds for TVET institutions and the approximate percentage contribution to the total budget of the institution. The results are captured in Figure 4.2.

Figure 4.2 Principals rating on sources of funds



The values in the figure 4.2 indicate that all the 7 institutions relied on fees from the students and government support to a great extent both at above 40% each with only a few benefiting from other sponsors. The findings show that industries contribution in financing TVET institutions is minimal and therefore do not contribute towards the production of middle level workforce. The study findings indicate that TVET institutions have few sources of funds and therefore need to explore and develop collaborative strategies to increase access to funding.

4.7 Influence of leadership strategies on production of middle level workforce

The second objective of the study sought to examine the influence of leadership strategies on production of middle level workforce in TVET institutions in Nairobi region. The lecturers and the students were asked to rate the influence of the leadership strategies in their institutions.

4.7.1 Lecturer's response on influence of leadership strategies on production of middle level workforce

The study sought to find out if lecturers are involved in leadership by planning and decision making. It further sought to find out if there are regular reviews of performance and if the leaders communicate values, vision and key decisions to the lecturers. The responses were indicated as in the Table 4.7

Table 4.7 Lecturer's response on leadership strategies in TVET institutions

Lecturers rating on influence on leadership strategies		Frequency	Percentage (%)
lecturers are involved in leadership, planning and in decision making	Strongly disagree	5	9
	Disagree	8	5
	Moderately agree	10	19
	Agree	28	53
	Strongly agree	2	14
	Total	53	100
Leadership in place supports gender in decision making	Strongly disagree	2	4
	Disagree	7	13
	Moderately agree	12	23
	Agree	30	57
	Strongly agree	2	4
	Total	53	100
Leaders regularly review performance for improvement and take appropriate action	Strongly disagree	1	2
	Disagree	3	6
	Moderately agree	8	15
	Agree	33	62
	Strongly agree	11	21
	Total	53	100
Senior leaders communicate values, vision Key decisions and expectations to lecturers.	Strongly disagree	2	4
	Disagree	3	6
	Moderately agree	7	13
	Agree	10	19
	Strongly agree	31	58
	Total	53	100

Table 4.7 shows lecturerôs response on leadership strategies in TVET institutions. The findings asserts that lecturers were involved in leadership, planning and in decision making. This was revealed by the rating of 67% who agreed. Their views could have represented majority of the lecturers who are always committed to institutional matters including attending morning assembly, staff meetings and other school activities thus showing a clear departure in perception and prevailing attitudes as earlier observed by Dasmani (2011) who observed that leaders from

TVET background are perceived negatively. However, quality management is an integral part of TVET. This upholds relevance of TVET outcomes and maintains employability of the graduates.

According to the findings of the study, leadership in place support gender in decision making was indicated by 57% agree rate which implies that there is no gender discrimination in TVET institutions. Gender policies are in place in most of the institutions. Internally, however, there are disparities in gender enrolment across departments. Engineering courses are male dominated whereas business disciplines are female dominated. With proper strategies to address interdepartmental disparities, enhanced middle level workforce could be achieved. In response to whether leaders regularly review performance for improvement and take appropriate action, the study revealed 83% were in agreement. It was observed that Leaders regularly review performance for improvement and take appropriate action. The Lectures in TVET institutions are involved in performance review as most of them have embraced performance management practices: including performance contracting and ISO 9001:2008 certification. The lecturers are committed to continuous improvement and thus influencing production of middle level workforce positively. This concurs with Bradford (2011) who emphasized the need for lecturers to understand leadership strategies

which could enable them to make better day-to-day decisions that would support the instituteôs vision.

Senior leaders communicate values, vision, key decisions and expectations to lecturers. This was asserted by 73% agree rate with 45% strongly agreeing. This influences production of middle level workforce by imparting ethical values alongside transfer of relevant knowledge and skills in their respective trades. The lecturers were also believed to offer leadership and were also role models to the students.

4.7.2 Student's response on influence of leadership strategies on production of middle level workforce

The study sought to find out if students are involved in leadership planning and in decision making and whether leadership in place support gender in decision making. It further sought to find out if there are regular reviews of performance and if there was communication of values, vision and key decisions to the students. The responses were as indicated in the Table 4.8

Table 4.8 Leadership strategies for students in TVET

Students rating on influence of leadership strategies		Frequency	Percentage (%)
Students are involved in leadership, planning and in decision making	Strongly disagree	60	44
	Disagree	50	28
	Moderately agree	40	12
	Agree	20	11
	Strongly agree	8	4
	Total	178	100
Leadership in place supports gender in decision making	Strongly disagree	10	6
	Disagree	30	17
	Moderately agree	50	28
	Agree	80	45
	Strongly agree	8	4
	Total	178	100
Leaders regularly review performance for improvement and take appropriate action	Strongly disagree	5	3
	Disagree	13	7
	Moderately agree	10	6
	Agree	60	34
	Strongly agree	90	51
	Total	178	100
Senior leaders communicate values, vision Key decisions and expectations to students	Strongly disagree	8	4
	Disagree	10	6
	Moderately agree	30	17
	Agree	50	28
	Strongly agree	80	45
	Total	178	100

Table 4.8 shows students responses on leadership strategies in TVET. The data reveals that students are not involved in leadership, planning and in decision making as indicated by 72% disagree rating. A paltry 4% were in agreement which could be the leadership of the student bodies in the institutions. This implies that studentôs involvement in planning and in making key decisions is limited.

The studentôs rating on gender support in leadership was at 45% agreement. This implies that there is gender balance in studentôs leadership bodies. This could be attributed to allocation of slots as per institutional gender guidelines and negotiations during campaigns for competitive positions.

Responses by students averred that leaders regularly reviewed performance for improvement and took appropriate action from 85% agreement of which 51% strongly agreed. This was believed to influence production of middle level workforce in that suggestions for improvements were embraced.

The students indicated that senior leaders communicate values, vision, key decisions and expectations to the students with a rating of 28% agree rate. The communication is done through the student leaders, memos assemblies and in school activities. Those who rated 4% disagree could be students less interested in school activities and more often than not are absent from assemblies and school activities. Effective communication and studentsô involvement could act as a motivator and hence influence their retention in TVET institutions thereby increasing the production of middle level workforce.

4.7.3 Principal's response on influence of leadership strategies on production of middle level workforce

The study sought to find out from the principals whether stakeholders are involved in leadership, planning and in decision making and whether the

leadership system is in place support gender in management. The study found out if stakeholders are involved in regular reviews, performance improvement and participate in taking appropriate actions and whether there are ways of communicating values, vision, key decisions and expectations to all the stakeholders.

The findings indicated that stakeholders are involved in leadership, planning and in decision making as was indicated by a rate of 98%. The principals hold regular meetings with the key stakeholders and the principals operate on open door policy where stakeholers views are welcomed. These include boards of governors, parents, teachers and the students. Stakeholders regularly review performance for improvement and take appropriate action as indicated by a rate of 89%. The principals regularly carry out customer satisfaction surveys and implement such recommendations. This influences the enrolments rates in the various courses and seeks to identify areas of improvement hence ensuring that the production of middle level work force is enhanced.

Senior leaders communicate values, vision, key decisions and expectations to stakeholders were indicated by a rate of 98%. Those who do not attend meetings when invited do not get to know and they are usually at a small rate of 2%.

The findings indicate that performance management in TVET institutions is well embraced by the principals. They communicate values, vision, key decisions and expectations to stakeholders as required and this influences the growth of the TVET institutions hence influencing the production of middle level workforce.

4.8 Influence of adequacy of teaching learning strategies on production of middle level workforce

The third objective of the study sought to determine the influence of adequacy of teaching learning strategies on production of middle level workforce. The lecturers and the students were asked to rate the influence of teaching learning strategies in their institutions.

4.8.1 Lecturer's response on influence of adequacy of teaching learning strategies on production of middle level workforce

The study sought to find out if lecturers have adequate, up-to-date teaching learning resources, whether there are regular in-service for the teachers and whether industry supports lecturers by providing materials and in training. The lecturerôs response was as indicated in the table 4.9

Table 4.9 Lecturer's response on teaching learning strategies in TVET

Lecturers rating on influence of teaching learning strategies		Frequency	Percentage (%)
Adequate teaching learning resources	Strongly disagree	1	2
	Disagree	2	4
	Moderately agree	8	15
	Agree	26	49
	Strongly agree	16	30
	Total	53	100
Up-to- date teaching learning resources	Strongly disagree	11	20
	Disagree	7	13
	Moderately agree	8	15
	Agree	19	36
	Strongly agree	8	16
	Total	53	100
Regular in-service for the teachers	Strongly disagree	18	34
	Disagree	25	46
	Moderately agree	5	10
	Agree	4	8
	Strongly agree	1	2
	Total	53	100
Industry supports TVET trainers by providing materials and in training	Strongly disagree	8	15
	Disagree	25	47
	Moderately agree	10	19
	Agree	6	11
	Strongly agree	4	8
	Total	53	100

Table 4.9 shows lecturerôs response on teaching learning strategies in TVET. The lecturers rated adequate teaching learning resources at 79% agree rate with 49% strongly agreeing. The study revealed that there are adequate teaching learning resources. This could be attributed to provision of grants to institutions for teaching learning materials and the donor support to equip institutions. The 4% disagree rate represent technical departments that require very expensive

equipment and had neither benefited from the government grants nor the donor equipment support.

The study portrayed TVET institutions as having up-to-date teaching learning resources, the lecturers responded with 36% agree rating. This was an indication that the lecturers were moderately satisfied with their training resources. A rating of 13% strongly disagree could be associated with technical departments whose teaching learning materials involve heavy machinery and others could not keep up with the fast changing technologies. Obsolete teaching learning resources reduces student enrolments in TVET hence negatively affecting the production of middle level workforce.

The study findings further depicted TVET as having no regular in-service for the teachers as shown by 80% disagree rate. This denotes lack of opportunity for majority to go for in-service training. The lecturers neither had forums where they could acquire new pedagogical skills nor upgrade existing ones. The inability to acquire new skills could make TVET trainers not to transfer up-to-date skills to learners which in turn could lower studentsô attraction to TVET institutions. This assertion concurs with Odhiambo (2005) who notes that continuous updating of trainersô education would lead to improved quality of teaching and learning in the institutions.

The study revealed that majority of lecturers sampled opined that industry was not supportive of TVET institutions by providing materials for training. This was confirmed by 62% disagreeing. The findings suggest that support of TVET trainers by industry is minimal. This could affect the quality of training due to incompatibility of training materials with modern industry requirements. The study established that there were weak linkages between TVET and industry. It emerged that TVET institutions on their own could not offer relevant training without industry support and this could negatively influence production of middle level workforce. This notion concurs with Koech (1999) that more active collaborative mechanism between industry and training institutions should be put in place to ensure relevance of training. The collaborations will help ensure that teachers also keep abreast with the changing technology

4.8.2 Students' response on influence of teaching learning strategies on production of middle level workforce

The study sought to find out if there are adequate students teaching learning resources,whether there are well equipped classrooms and workshops for the students and if teachers engage students in class activities. The studentôs response was as recorded in the Table 4.10

Table 4.10 Teaching learning strategies for students in TVET

Students rating on influence of teaching learning resources		Frequency	Percentage (%)
Adequate students teaching learning resources	Strongly disagree	8	4
	Disagree	20	11
	Moderately agree	30	17
	Agree	50	28
	Strongly agree	70	40
	Total	178	100
Well equipped classrooms, laboratories and workshops	Strongly disagree	70	40
	Disagree	20	11
	Moderately agree	50	28
	Agree	30	17
	Strongly agree	8	4
	Total	178	100
Teachers engage students in class activities	Strongly disagree	10	6
	Disagree	20	11
	Moderately agree	80	45
	Agree	60	34
	Strongly agree	8	4
	Total	178	100
Provision of students training materials by industry	Strongly disagree	80	45
	Disagree	60	34
	Moderately agree	20	11
	Agree	10	6
	Strongly agree	8	4
	Total	178	100

Table 4.10 represents studentsô responses on teaching learning strategies in TVET. The respondents indicated that there was adequate teaching learning resources with 85% agree rate 40% of whom strongly agreed. This showed appreciation of Government effort to provide the students with adequate teaching learning recourses. This study noted that institutions are setting aside adequate funds for teaching learning materials. Those who rated strongly disagree were

4% and this could be attributed to obsolete and inadequate teaching materials in the market and institutions unable to cope with fast changing technology.

The study had most of students disaagreeing that they had well equipped laboratories classrooms and workshops. Majority of the students disagreed with a rate of 79% where 40% strongly disagreed. This implies laboratories classrooms and workshops were not adequately equipped for teaching learning. The 4% strongly agree rate could be attributed to non-technical disciplines that do not require laboratories and workshops. Well equipped laboratories classrooms and workshops influence production of middle level workforce in that TVET institutions are taken as institutions of first choice, and end up attracting more students.

When the students were asked to rate whether teachers engage students in class activities they indicated it with a rate of 45% moderate rate. This implies that the students are not satisfied with the teacherôs engagement in class activities. The 6% agree rate represents the very bright students in the institutions.

The students rated provision of training materials by industry at 45% disagree rate which implies that there is not enough industry support to studentôs resources. The findings implied that though the institutions are setting aside resources for teaching and learning there is need to explore more collaborative approaches to

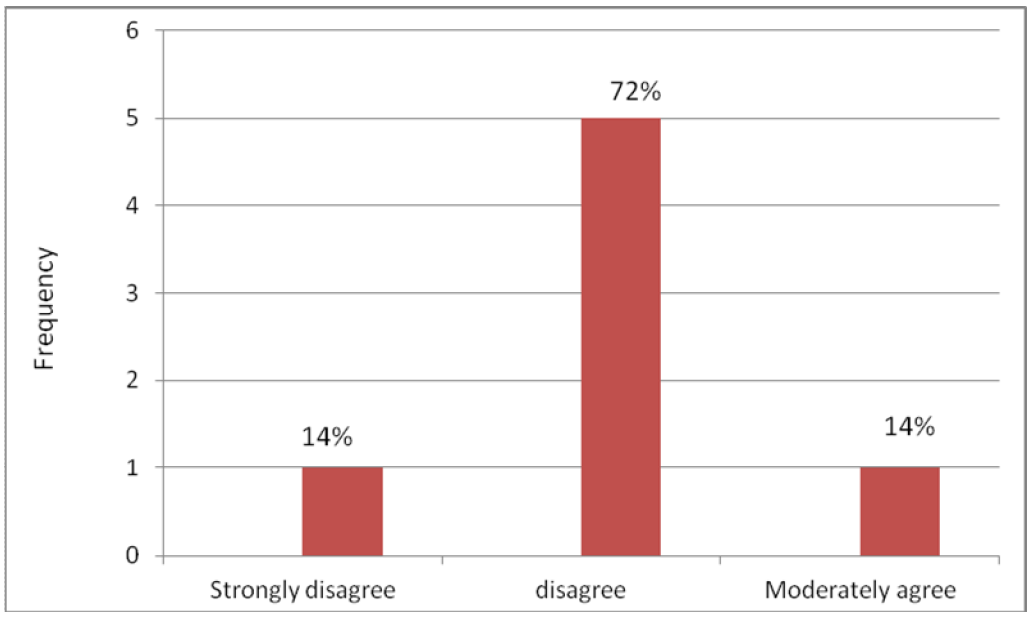
ensure even the departments that require heavy and expensive machinery are also catered for. This influences production of middle level workforce since TVET institutions charge higher fees than general education to be able to cater for expensive equipment and hence not able to attract large numbers of students.

4.8.1 Teaching learning strategies for Principal's in TVET

The principals were asked whether students had adequate teaching learning resources in TVET institutions. The response raised the issue of shortage of staff as key, as was indicated by 85.7% response rate. They identified the main courses affected by staff shortage as Engineering, applied science and information communications technology. The other 14.3% had no issues of staff shortage as they often lecturers locally on temporary basis.

The principals were asked whether teaching and learning resources were relevant to the current skills required in the job market, and the response was as recorded in the Figure 4.3

Figure 4.3 Principals response on relevance of TVET courses



The data in figure 4.3 indicate that the majority of the principals 72% disagreed that teaching and learning resources were relevant to the current skills required in the job market. The principalôs response on whether the TVET curriculum was flexible and open to attract adequate students they were all in agreement that itôs not. This influences production of middle level workforce as only few students are able to cope with a fixed curriculum. They further noted that industry does not provide neither materials nor offer support in training despite offering a three months industrial attachment for the students. This acts as a hindrance to training the critical masses of middle level workforce as TVET institutions are not attractive to majority of the students.

4.9 Influence of strategies of types of courses offered on production of middle level workforce

The fourth objective in this study sought to determine whether courses offered by the TVET institutions influenced the kind of production of middle level workforce. The lecturers and the students were asked to rate the influence of courses offered in their institutions.

4.9.1 Lecturer's response on courses offered in TVET

The study sought to find from the lecturers whether high entry grades affect enrolment in the courses offered, whether lecturers guide students in making informed choices of courses offered, whether students low entry grades affect acquisition of appropriate skills and whether courses offered in TVET enhance quality orientation and creativity in the job market. The findings were as indicated in the Table 4.11

Table 4.11 Lecturer's view on courses offered in TVET

Lecturers rating on influence of courses offered		Frequency	Percentage (%)
High entry grades affect enrolment in courses offered	Strongly disagree	1	2
	Disagree	2	4
	Moderately agree	8	15
	Agree	26	30
	Strongly agree	16	49
	Total	53	100
Lecturers guide students in making informed choices of courses offered	Strongly disagree	20	38
	Disagree	20	38
	Moderately agree	5	9
	Agree	2	4
	Strongly agree	6	11
	Total	53	100
Students low entry grades affect acquisition of appropriate skills	Strongly disagree	3	6
	Disagree	6	11
	Moderately agree	8	15
	Agree	16	30
	Strongly agree	20	38
	Total	53	100
Courses offered in TVET enhance quality orientation and creativity in the job market	Strongly disagree	8	15
	Disagree	25	47
	Moderately agree	10	19
	Agree	6	11
	Strongly agree	4	8
	Total	53	100

Table 4.11 shows lecturerôs response on courses offered in TVET. The data shows that high entry grades affect enrolment in the courses offeredas shown by 94% agree rate. High entry grades lowers enrolment in TVET. This could be attributed to competition for the same students among universities and the TVET institutions. The situation is excerbated by universities offering certificate and bridging courses for candidates with low entry grades.This perseption concurs

with Commonwealth of Learning, (2001) on many parentsô believe that only university education will offer their children the opportunity to acquire a good job. The study therefore observes that attributing choice of courses to studentsô passion in the given trades in TVET could have negative influence on production of middle level workforce.

The lectures noted that students were not guided in making informed choices of courses offered. This was evidenced by 76% disagree rating from the respondents 38% of whom strongly disagreed. This demonstrated that there was no structured career guidance and counseling regarding courses, contrary to the assertion by OECD (2008) that means and mechanisms should be put in place to ensure a smooth and rapid transition of TVET graduates. Guidance and counseling is an important element towards production of middle level workforce.

The study revealed that entry grades affect acquisition of appropriate skills as was indicated by the 83% agree rate whereby 38% strongly agreed. The lecturers were of the opinion that some skills especially the craft and the diploma courses in mechanical, electrical and electronics required high entry grades as the courses were highly abstract in nature and involved not only practical skills but abstract skills as well. However, about 6% of the respondents strongly disagreed, an observation that could be attributed to those in the artisan and certificate courses which are practically oriented.

The study further noted that courses offered in TVET enhance quality orientation and creativity in the job market. This was shown by a disagree rate of 62 %. They cited cases where students were very successful in trades they were not taught in school. Only 8% of the respondents agreed that courses offered in TVET enhance quality orientation and creativity in the job market. They indicated that those with practical oriented trades were more creative when they joined the job market. The study reveals that TVET institutions need more job oriented courses to attract large numbers of students they need to be admitting in TVET towards production of middle level workforce.

4.9.2 Student's response on influence of strategies of courses offered on production of middle level workforce

The study sought to out the students perceptions on whether career mobility affect enrolments in courses offered, whether career guidance and counseling helps students in making informed choices of the courses offered in TVET, if creation of awareness in secondary schools influences enrolments in TVET courses and whether creative skills and use of ICT in TVET enhance quality and creativity in the job market. The findings were tabulated as indicated in the Table 4.12.

Table 4.12 Student's view on courses offered in TVET

Students rating on influence of courses offered		Frequency	Percentage (%)
Career mobility affect enrolment in courses offered	Strongly disagree	7	4
	Disagree	11	6
	Moderately agree	14	8
	Agree	55	31
	Strongly agree	91	51
	Total	178	100
There is Career guidance and counseling in TVET	Strongly disagree	80	45
	Disagree	50	28
	Moderately agree	30	17
	Agree	13	7
	Strongly agree	5	3
	Total	178	100
Creation of TVET awareness in secondary schools would increase enrolments	Strongly disagree	7	4
	Disagree	11	6
	Moderately agree	14	8
	Agree	50	28
	Strongly agree	96	53
	Total	178	100
Creative skills and use of ICT in TVET enhance quality and creativity in the job market	Strongly disagree	11	6
	Disagree	19	11
	Moderately agree	28	17
	Agree	77	43
	Strongly agree	43	24
	Total	178	100

The Table 4.12 presents studentsô view on courses offered in TVET. It emerged that career mobility affect enrolment in TVET courses. This was affirmed by majority of the respondents with a total rating of 90% agreeing. majority of the students noted that there was no clear pathway for career advancement to either technical universities or other academic degree awarding institutions. This could portray TVET courses as more inferior to university education since most them were considered to lead to a dead end, thus negatively influencing production of

middle level workforce.This concurs with Carnoy (1993) who notes that recognition and preference for general education over TVET by the youth in the Sub-Saharan Africa is high.

The findings revealed that career guidance and counseling on courses offered in TVET is minimal as shown by 90% of the respondents who disagreed. Those who agreed were 3% which could be attributed to those who voluntarily sought career guidance from the lecturers or heads of departments themselves. The study noted that proper orientation and induction could enhance enrolment and alleviate midway career switch and hence influence production of middle level workforce positively. This notion concurs with Sultana G. (2012) who notes that career guidance could help make TVET more attractive and help in promoting knowledge of the training offered in TVET institutions and in marketing TVET as a desirable option.

The study also indicates with 81% of the respondents agreeing that creation of awareness in secondary schools would increase enrolments in TVET. This implies that creation of awareness through career guidance and counseling at secondary school level could influence the production of middle level workforce in TVET by increasing enrolments in the courses offered.

The study findings further shows with 84% respondents in agreement, creative skills and use of ICT in TVET would enhance quality and creativity in the job market. Most of the students observed that there was a lot to be learnt from the internet. In addition, most courses would be cheaper when conducted through e-learning thus enhancing enrolments in TVET. This proposition is in agreement with Majumdar S. (2011) who asserts that TVET could produce a new generation of educated and skilled employees flexible, analytical, and who could serve as the driving forces for innovation and growth.

4.9.3 Principal's response on influence of strategies of courses offered on production of middle level workforce

When the principals were asked to comment on TVET institutions enrolments, they indicated the challenges they had in enrolling students in TVET courses. Though a number of issues were raised as the cause for the low enrolments the main reason given by the principals was negative perception of students to TVET courses where majority preferred university education. The reasons for poor enrolments were as tabulated in the Figure 4.4

Figure 4.4 Principals rating on reasons for TVET poor enrolments

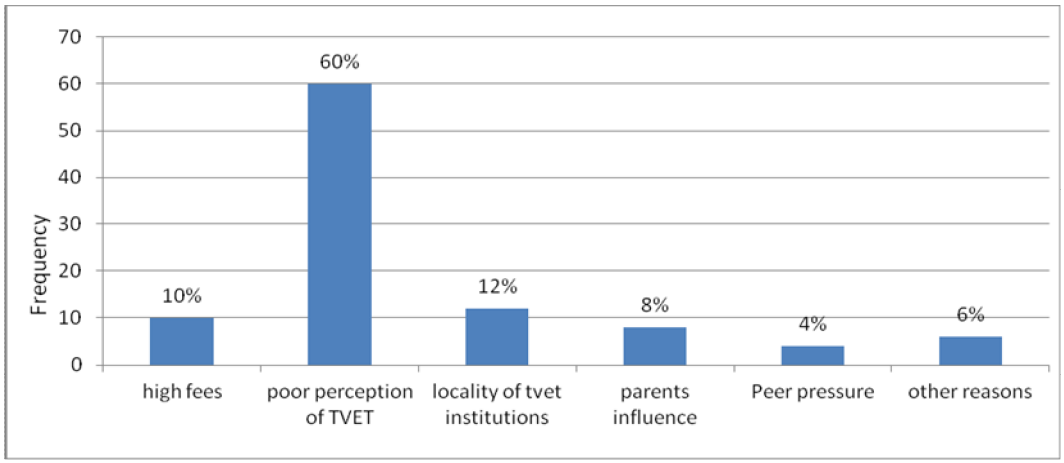


Figure 4.4 indicate varying reasons given by principals for poor enrolments in TVET**.** Poor perception of TVET by the youth was noted to be the key reason. When asked to identify the strategies the principals intended to use to counter the low enrolments in TVET courses, the principals gave the following: career talks in the neighboring secondary schools, provision of bursaries to students and institutional scholarships, CDF as well as advertisement of the courses through media and embarking on Community outreach programmes. This shows that though there are many strategies the principals are using poor perception of TVET institutions greatly influences the production of middle workforce as few students would opt for TVET courses.

Chapter five

Summary, conclusions and recommendations

5.1 Introduction

This chapter presents the summary of the findings from the discussions in Chapter four and also gives conclusions and recommendations based on the objectives of the study and the research questions. The chapter ends with suggestions for further study**.**

5.2 Summary of the study

The main purpose of the study was to determine the strategies influencing production of middle level workforce in TVET institutions in Nairobi region, Kenya. Four objectives guided the study: to determine the extent to which financial strategies influence production of middle level workforce in TVET institutions, determine the extent to which leadership strategies influence production of middle level workforce, assess the extent to which teaching learning strategies affect production of middle level workforce, determine the extent to which strategies of courses offered in TVET influence production of middle level workforce in TVET institutions. The study adopted descriptive survey design. The study targeted all the seven (7) TVET Centers of Excellence in Nairobi Region.

The research instruments used were questionnairesô for lecturers and students and an interview guide for principals. The raw data was coded into themes and concepts and analyzed using both descriptive and quantitative statistics. Both Excel and Statistical package for social scientists (SPSS) were used for data analysis. Data was presented in charts, frequency tables and percentages. The findings enabled the researcher to establish the recommendations of the study.

5.3 Summary of the study findings

The summary of findings provided key observations of the study as far as background information about respondents; rating on strategies influencing production of middle level workforce in TVET institutions as outlined in the study objectives.

The study revealed that there are no funds set aside for lecturersô professional development. There are no structured programmes for the lecturersô career advancement. Institutions do not have adequate funds to support scholarship programmes for the lecturers and industry support towards TVET lecturers training could be minimal. The study findings further indicate that instituions do not have funds set aside for work study programmes nor scholarship for TVET students. It also emerged that industry could not be offering enough support towards students training in TVET subsector.

The study noted that lecturers are involved in leadership, planning and in decision making. They regularly review performance for improvement and take appropriate action. The study noted that senior leaders communicate values, vision, key decisions and expectations to lecturers. TVET Lecturers are involved in leadership since all institutions have embraced performance management practices that include performance contracting and ISO 9001:2008 certification.

The study, however, established that students are not adequately involved in leadership, planning and in decision making although key decisions are communicated to them. The management hold regular meetings with the key stakeholders and the principals operate on open door policy where stakeholers views are welcomed. The principals regularly carry out customer satisfaction surveys and implement such recommendations.

The study found out that the lecturers had adequate teaching learning resources. However, departments which required very expensive equipment had neither benefited from government grants nor donor equipment support. In addition, institutions were not able to cope with the changes in departments involving fast changing technologies. The study established that lecturers do not go for in-service training. The study also noted that laboratories classrooms and workshops were not well equipped. The Principals also averred shortage of staff and identified the main courses affected as engineering, applied science and

information communications technology noting that TVET curriculum was not flexible and open to attract adequate students.

The study findings showed that students are not guided in making informed choices of courses offered. It also emerged that there was no structured career guidance and counseling regarding for courses offered. The study established that entry grades affect acquisition of appropriate skills and that some skills in technical courses required high entry grades thus affecting production of adequate middle level workforce.

The study noted that career mobility affect enrolment in TVET courses. Majority of the students indicated that there was no clear path to advance their studies either in technical universities or other institutions of higher learning thus making courses in TVET inferior to university education. This perception affects the numbers of TVET graduates hence reducing the number of middle level workforce produced. Further the study notes that creation of awareness in secondary schools would increase enrolments in TVET and this would influence the production of middle level workforce in TVET consequently increasing enrolments in the courses offered.

5.4 Conclusion

In conclusion, the findings indicate that TVET institutions have limited access to funding and industryôs financial support in is minimal. There inadequate funds set aside for lecturerôs professional development, work study or scholarship programmes for the students. There were no loans or subsidies for the lecturers and there were no mechanisms in place to ensure proper utilization of funds. It also emerged that studentôs involvement in planning and decision making in training was lacking. TVET curriculum was found to be inflexible and not open to attract adequate students and hence reducing the number of TVET graduates in turn affecting the production of middle level workforce.

Career mobility in courses offered in TVET was found not to be clear and that career guidance and counseling strategies were not in place to help students make informed choices of courses offered in TVET. Creation of awareness in secondary schools was found crucial to enhance enrolments in TVET whereas offering creative skills and use of ICT in TVET would enhance quality and creativity in the job market.

5.5 Recommendation

The study recommends that;

i. The TVET institutions should develop strategies geared towards increasing access to funding and should find ways to engage industry to support in financing training institutions. The institutions should develop students work study and scholarship programmes and should establish mechanisms to ensure funds are well utilized in order to increase the production of middle level workforce.

ii. The institutions should develop strategies to address shortage of staff, ensure teaching and learning resources are relevant to the current skills required in the job market and that TVET curriculum is flexible and open to attract adequate students. Teacherôs engagement in class activities should be enhanced and that there is not enough industry support to students resources.

iii. Courses offered should be enhanced and career mobility well articulated. There should be career guidance and counseling strategies is employed to help students make informed choices of courses offered in TVET. Creation of awareness in secondary schools is recommended to influence the production of middle level workforce in TVET while offering creative skills and use of ICT in TVET would enhance quality and creativity in the job market

5.6 Suggestions for further study

Given the findings and conclusions drawn from the undertaken research project, it is apparent that there are strategies that influence production of middle level workforce in public technical, vocational education and training institutions in Nairobi region.

i. A study to be undertaken in both public and private TVET institutions in other regions to determine the strategies that influence production of middle level workforce

ii. A study to be carried out to determine if financial strategies influence retention of students in TVET as this would determine ways to increase production of middle level workforce.

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Appendices

Appendix i: A letter to the respondents

University of Nairobi
Department of Educational Administration and Planning
P.O. Box 92
KIKUYU

April/ May 2013

Dear respondent,

I am a student at the University of Nairobi undertaking an educational research study in TVET institutions in Nairobi region. The study is designed to gather information on the strategies influencing production of middle level workforce in TVET institutions. The ultimate goal is to produce middle level workforce that is relevant and able to find or create jobs hence contribute to economic development of this country.

You have been chosen to participate in this study, kindly respond to all items in the questionnaires. Do not write your name or that of your institution anywhere. The information provided will be used for purposes of academic research only.

Thank you for your cooperation.

Yours faithfully,

Margaret Nduhiu
Post graduate student; University of Nairobi

Appendix ii: Lecturers questionnaire

This questionnaire is intended to gather information on strategies that influence production of middle level workforce in Public TVET Institutes in Nairobi Region. You are kindly requested to participate in the study by filling in this questionnaire.

You are assured that your identity will be treated with confidentiality and that the information provided will be used for purposes of academic research only.

Please answer the following questions by putting a tick [ã] in the appropriate box or by writing in the space provided.

Section A: General Information

1. Gender: (a) Male [ ] (b) Female [ ]
2. Age (in years): Below 30[ ] 31-40[ ] 41-50 [ ] 51 and above [ ]
3. Number of years worked
   a. 0-5 [ ] b). 6-10 [ ] c). 11-15 [ ]
   d). 16-20 [ ] e). 21 and above [ ]
4. What is your highest level of education qualification?
   a. Diploma [ ] b) Bachelorôs degree [ ]
   c). Masters [ ] d). PhD [ ]

SECTION B: Influence of financing strategies and production of middle level workforce

5. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
Institutions offer Loans and subsidies to lecturers					
Scholarships are available for lecturers					
Industry support in training lecturers in TVET institutions					
Mechanisms are in place to ensure funds are well utilized					

Section C: Influence of leadership strategies on production of middle level workforce

6. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
lecturers are involved in leadership, planning and in decision making					
lecturers are involved in regular reviews, performance improvement and participate in taking appropriate actions					
The leadership system is in place support gender in management					
Senior leaders communicate values, vision, key decisions and expectations to all lecturers					

Section D: Influence of teaching learning strategies on production of middle level workforce

7. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	1	2	3	4	5
TVET institutions have adequate teaching learning resources					
Up-to- date teaching learning resources relevant to the current skills required in the job market					
Regular in-service for the teachers					
Industry supports TVET trainers by providing materials and in training					

Section F: Influence of courses offered on production of middle level workforce

8. . To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***, 2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	1	2	3	4	5
High entry grades in TVET courses affect enrolments in the institution.					
Lecturers guide students in making informed choices of courses offered					
studentsô low entry grades affect acquisition of appropriate skills					
Courses offered in TVET enhance quality orientation and creativity in the job market					

End of the questionnaire

Thank you for your valuable contribution

Appendix iii : Interview guide for principals

PART 1: PERSONAL INFORMATION

1. How long have you served as a principal in this school? _____

2. In your opinion are there adequate strategies in place in your institution towards production of middle level workforce? If yes which ones

PART 2: Influence of Financing strategies and production of middle level workforce

1. Give major sources of funds for your institution and the approximate % contribution to the instates budget
2. Give ways in which industry finance education for students
3. In your opinion would different sources of funds affect number of TVET graduates being produced

PART 3: Influence of Leadership strategies on production of middle level workforce

1. Stakeholders are involved in leadership, planning and in decision making
2. The leadership system is in place support gender in management
3. Stakeholders are involved in regular reviews, performance improvement and participate in taking appropriate actions
4. Are there ways of communicating values, vision, key decisions and expectations to stakeholders

PART 4: Influence of Teaching Learning Resources on Production of Middle Level Workforce

1. In your opinion do students have adequate teaching learning strategies in TVET institutions, if not which ones are insufficient?

2. Teaching and learning resources are relevant to the current skills required in the job market
3. In your opinion is the TVET curriculum flexible and open to attract adequate students
4. Industry provides materials and offers support in training

PART 5: Influence of courses offered on production of middle level workforce

1. High entry grades in TVET courses affect enrolments in the institution.
2. Students are guided in making informed choices before enrolling for courses TVET institutions
3. In your opinion, do studentsô low entry qualifications affect acquisition of appropriate skills
4. Courses offered in TVET enhance quality orientation and creativity in the job market

Appendix iv: Students' questionnaire

This questionnaire is intended to gather information on strategies that influence production of middle level workforce in Public TVET Institutes in Nairobi Region. You are kindly requested to participate in the study by filling in this questionnaire.

You are assured that your identity will be treated with confidentiality and that the information provided will be used for purposes of academic research only.

Please answer the following questions by putting a tick [ã] in the appropriate box or by writing in the space provided.

Section A: General Information

1) Gender: (a) Male [ ] (b) Female [ ]
2) Age (in years): Below 20 [ ] 21-25 [ ] 26- and above [ ]
3) Level of study first (a) Higher Diploma [ ] (b) Diploma [ ] b) Craft [ ] c). Artisan[ ]
4) Course é . Give a reason for pursuing this particular course é é é é é é é é é é .

SECTION B: Influence of financial strategies on production of middle level workforce

5. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***, 2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
Instituions have school work programmes for the students					
Students have scholarship programmes in TVET institutions					
Industry supports students in financing TVET institutions					
There are mechanisms in place to ensure funds are efficiently used in TVET institutions					

Section C: Influence of leadership strategies on production of middle level workforce

6. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
Students are involved in leadership ,planning and decision making					
The leadership system in place support gender in management					
Leaders regularly review performance for improvement and take appropriate action					
Senior leaders communicate values, vision, key decisions and expectations to students					

Section D: Influence of teaching learning strategies on production of middle level workforce

6. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
Students have adequate teaching learning resources					
Students have well equipped classrooms, laboratories and workshops					
Teachers engage students in class activities in TVET institutions					
Industry provides students training materials and offers support in training					

Section E: Influence of strategies on courses offered on production of middle level workforce

8. To what extent do you agree with the following statements? Use a scale of 1-5 where: 1 (***strongly disagree)***,2 (**d*isagree)***, 3 **(*moderately)***, 4 **(*agree*)** 5 (***strongly agree)***

Statements	**1**	**2**	**3**	**4**	**5**
Career mobility affect enrolment in courses offered in TVET institutions.					
Career guidance and counseling helps students in making informed choices before enrolling for courses TVET institutions					
Creation of TVET awareness in secondary schools affect enrolments in the courses offered in TVET institutions					
Creative skills and use of ICT in TVET enhance quality and creativity in the job market					

End of the questionnaire
Thank you for your valuable contribution

Appendix v: Budget for the study

S/No.	Item	Amount
1.	Typing the proposal	2,500.00
	Typing the final report	2,500.00
	Photocopying	2,000.00
2.	Writing material	1,000.00
	Duplicating paper	2,500.00
	Pens	200.00
3.	Traveling expenses	
	To administer questionnaires	15,000.00
	Data collection	10,000.00
4.	Binding reports	
	Binding the proposal	500.00
	Binding the final report	1,800.00
5.	Computer services	2,000.00
6.	Transport and Accommodation	8,000.00
7.	Communication means	5,000.00
8.	Miscellaneous expenses	2,000.00
	TOTAL	**50,000.00**

Appendix vi: Time frame for the study

S/No.	Activity	Dates
1.	Choosing the topic	20th December, 2012
2.	Pre-reading literature search	20th December, 2012
3.	Formulating the Topic/concept paper	30th December, 2012
4.	Writing the research proposal	January, 2013
5.	Revising , typing and submitting the proposal	March, 2013
6.	Preparation and validation of instrument	1st to 30th April
7.	Data Collection	1st to 15th May, 2013
8.	Evaluation and interpretation of data	16th to 31st May 2013
9.	Writing and typing the report/project	1st to 15th June, 2013
10.	Submission of the project	16th July, 2013

Appendix vii:TVET institutions centres of excellence in Nairobi region

S/No	TVET INSTITUTION	TVET CoE TRADE AREAS
1.	Nairobi Technical Training Institute	Applied sciences
2.	Kabete Technical Training Institute	Electrical Engineering
3.	Thika Technical Training Institution	Mechanical Engineering
4.	Wote Technical Training Institution	Building and civil Engineering
5.	Masai Technical Training Institution	Automotive Engineering
6.	Kinyanjui Technical Training Institution	Clothing and Textile Technology
7.	Kiambu Institute of Science and Technology	Food and beverage

Appendix viii : Research permit

CONDITIONS

1. You must report to the District Commissioner and the District Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed with-out 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)/four(4) bound copies of your final report for Kenyans and non-Kenyans respectively.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

GPK6055t3mt10/2011

(CONDITIONS—see back page)

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THIS IS TO CERTIFY THAT:
Prof./Dr./Mr./Mrs./Miss/Institution
Margaret Njoki Nduhiu
of (Address) University of Nairobi
P.O.Box 92-0902, Kikuyu
has been permitted to conduct research in
Location
District
Nairobi County
on the topic: Strategies influencing production of middle level workforce in public Technical, Vocational Education and Training Institutions in Nairobi Region, Kenya.
for a period ending: 31st December, 2013.

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Research Permit No. *NCST/RCD/14/013/1121*
Date of issue *24th June, 2013*
Fee received *KSH. 1000*

Applicant's Signature

For Secretary
National Council for Science &Technology